

US EPA ARCHIVE DOCUMENT

**Bi-Annual Progress Report  
Of the  
Early Action Compact  
In the Fayetteville Metropolitan Statistical Area  
North Carolina**



**A joint effort by USEPA Region 4, North Carolina Department of Environment and Natural Resources, and the Cumberland County Board of Commissioners, Town of Falcon, City of Fayetteville, Fort Bragg Military Reservation, Town of Godwin, Town of Hope Mills, Town of Linden, Pope Air Force Base, Town of Spring Lake, Town of Stedman and Town of Wade and the Fayetteville Area Metropolitan Planning Organization**

**December 31, 2005**

## Introduction

The Fayetteville Metropolitan Statistical Area Early Action Compact (Fayetteville MSA EAC) requires that a semiannual report of activities undertaken by the state and local partners be submitted to the Environmental Protection Agency as part of the milestones determination. This report covers the activities and accomplishments during the period of June 30, 2005 to December 31, 2005. The first part of this report contains the local program updates, including the Stakeholders and Technical Committee members' activities, public outreach activities, a summary of "Be Aware of Our Air" campaign., and updates on the selected strategies. The second part of this report includes the information provided by the North Carolina Department of the Environment and Natural Resources, Division of Air Quality.

Many of the most important and beneficial strategies are not readily quantifiable, due to the type of activities they entail, or due to the fact that actual data is not readily available at this time. As the Fayetteville MSA has not previously been identified with an ambient air quality problem, it is expected that the Awareness Strategies will likely have the highest impact on NOx emission reductions. However, these strategies are not quantifiable because they require behavior changes, rather than regulatory changes. Therefore, we believe that, through a good awareness campaign combined with the other strategies we are proposing, this area will reach the maximum allowable emission reductions for voluntary measures of 3%.

## Meetings and Public Involvement Activities

Staff attended the following meetings or participated in:

- Stakeholders Meetings (minutes available upon request)

July 28, 2005

- Technical Committee Meetings (minutes available upon request)

July 28, 2005

- Refueling America Workshop

September 1, 2005

- Massey Hill High School Environmental Club

December 9, 2005

- Air Quality Presentations

Southern Transportation and Air Quality Summit      August 2005  
(Attendance: 100)

Library Program "Fresh Air" (Attendance: Average 18 people)	August 2005
Air Quality Presentation (Attendance: 5 <sup>Th</sup> grade Classes 30 Students)	August 10, 2005
Rural Planning Organization Technical Advisory Committee (Attendance: 9 Board Members)	September 27, 2005
Air Quality Presentation (Attendance: Girl Scout Troop 25 Students)	October 20, 2005

- Public Events

Cumberland County Fair (Attendance: 40,000)	September 15-25, 2005
PWC "It's Electric" (Attendance: 350)	October 8, 2005
Cumberland County "Project Move" (Attendance: 180)	October 15, 2005

- Media Outreach

WFNC Radio Show	July 12, 2005
Kidsville News "Air is All Around Us" (Circulation 33,000)	August 2005
Up and Coming Weekly Magazine "It All Adds Up To Cleaner Air" (Circulation 20,000)	August 3-9, 2005
Up and Coming Weekly Magazine "It All Adds Up To Cleaner Air" (Circulation 20,000)	August 17-23, 2005
Kidsville News "Win With Air Quality" (Circulation 33,000)	September 2005
Up and Coming Weekly Magazine "What We Do For Money" (Circulation 20,000)	August 31-Sept. 6, 2005
Up and Coming Weekly Magazine "Campaign Promises"	

(Circulation 20,000)	September 14- 20, 2005
Kidsville News “Clean Air/Dirty Air” (Circulation 33,000)	October 2005
Up and Coming Weekly Magazine “Breath...Don’t Burn” (Circulation 20,000)	Sept. 28-October 4, 2005
Up and Coming Weekly Magazine “Play Ball?” (Circulation 20,000)	October 12-18, 2005
Up and Coming Weekly Magazine “You Can Improve Air Quality” (Circulation 20,000)	October 26-Nov. 1, 2005
Kidsville News “Clean Air/Dirty Air” (Circulation 33,000)	November 2005
Up and Coming Weekly Magazine “What is Biodiesel?” (Circulation 20,000)	November 9-15, 2005
Up and Coming Weekly Magazine “Global Warming or Warning” (Circulation 20,000)	November 23-29, 2005
Kidsville News “Clean Air/Dirty Air” (Circulation 33,000)	December 2005
Up and Coming Weekly Magazine “You Can Change The Climate” (Circulation 20,000)	December 7-13, 2005
Up and Coming Weekly Magazine “What Is An Early Action Compact?” (Circulation 20,000)	December 28-Jan. 3, 2005

## ***“Be Aware Of Our Air”***

***“Be Aware Of Our Air”*** is an awareness and educational air quality campaign for Cumberland County, North Carolina. This air quality campaign is a combined effort between the Fayetteville Area Metropolitan Planning Organization and the Fayetteville Regional Office of the North Carolina Department of Environment and Natural Resources, Division of Air Quality.

The region covered all of Cumberland County including Fayetteville, (population over 125,241 in 2004) and Fort Bragg military reservation with approximately 43,000 soldiers. Cumberland County is an EAC area in which air quality education is a major component to reduce ozone, particulate matter, and air pollution in general.

Numerous marketing programs have been developed to educate the public regarding air quality. Different programs are used to educate specific groups within the public, including children, teens, adults, and parents. The effects of air awareness outreach programs cannot be quantitatively measured; but it is believed that education and understanding will reduce air pollution emissions.

**Poster and Essay Contests** began in Spring 2004. The contests are open to all Cumberland County, Fort Bragg, and Pope AFB students grades K-7. These contests promote thinking about how air quality affects daily life. Monetary rewards are awarded. To expand participation we have advertised in Kidsville News!, at local events, and mailed personal letters to all Cumberland County principals. Submissions from the first contest have been created into a calendar for the 2005-2006 school year. The 520 calendars have been distributed to participants and used as educational material for other programs and displays. Submissions from the next two contests will be combined into an Air Awareness Book. We hope to put this book in the local community and state offices as educational material.

***“Be Aware of Our Air Week”*** occurred September 20-24, 2004 and May 1-7, 2005. It was launched with a press conference and coincides with the end and beginning of ozone season in NC. Air Awareness Diaries were created for both adults and children. These diaries challenge individuals to contribute to cleaner air by taking part in simple everyday activities such as riding a bike instead of driving, trip chaining, and taking a bag lunch. Both contests offered a variety of prizes including a bicycle to promote alternative transportation for the child with the best diary. The week was so successful in 2004 that for May 2005 Sustainable Sandhills contracted an individual to bring ***“Be Aware of Our Air Week”*** to three additional surrounding NC counties; Hoke, Harnett, and Moore.

To educate children in grades K-7, ***“Fresh Air”*** presentations were given at all seven Cumberland County Libraries during August 2005. The presentations lasted about 45 minutes and focused on carpooling and additional behaviors to reduce air pollution. The curriculum included a story time of two books, a movie, and science experiments. Each child received fun informational coloring/activity books, and parents received a bag of air quality information. Materials for this program were used from the Texas DOT, NASA, Hamilton County Environmental Services, and NC DENR. This program has been expanded to 5<sup>th</sup> grade classes by request of the teacher. We hope to create new lesson plans and continue with the Fresh Air presentations at the libraries and in the classroom.

**Kidsville News!** Is a free monthly educational publication that is distributed to all K-5<sup>th</sup> grade students in Cumberland County, Fort Bragg, Raeford, and Hoke County schools in addition to public libraries and other independent locations. The readership is about 80,000. We sponsor and create a page to teach air quality. The page includes activities, definitions, stories, and science experiments all focused on an air quality issue. Topics include: particulate matter, sulfur dioxide and nitrogen dioxide, ozone, carbon monoxide, and open burning. The air quality page started in August 2005 and will run until July 2006. We hope to extend this contract in the future.

**Up & Coming Weekly** is a free publication distributed throughout Cumberland County and the surrounding areas. It has a readership of 42,000 area residents. From August 2005 through July 2006 bi-weekly air quality editorials are published. We hope to educate all ages throughout the population, and get them thinking about air quality. Some topics include: save gas and save the air, global warming, acid rain, and alternative fueled vehicles.

The **Driving for Clean Air** program is an addition to the Cumberland County Driver's Education curriculum taught at local high schools. Two hours of the driver's education program has been set aside to teach about air quality. The curriculum includes having the students watch an "Easy Breathers" video that can be ordered at [EasyBreathers.org](http://EasyBreathers.org) and having the students read through and complete the activities in the "Cleaner Cars Student Manual" that was developed by and reproduced with the permission of the National Safety Council. In addition, fact sheets about ethanol, biodiesel, electric vehicles, and an alternative fuel comparison are given along with general air quality information. Tire pressure gauges with the NC DENR air quality website are given to each student to promote taking care of their car and thinking about the air around them as they drive.

**Air Quality Displays** are used throughout the community at many different events to promote awareness that air quality is a major issue in our region. Some of the events include Health Fairs, Festivals, Libraries, and the Cumberland County Fair. NC DENR and *It All Adds Up To Cleaner Air* supply the materials.



# **AIR QUALITY STAKEHOLDERS OF CUMBERLAND COUNTY SELECTED OZONE CONTROL STRATEGIES UPDATE**



## Quantifiable SIP Strategies

### MOBILE SOURCES

#### *Inspection and Maintenance Program*

The 1999 Clean Air Bill expanded the vehicle emissions inspection and maintenance program from 9 counties to 48, and improved the testing method. Vehicles are being tested using the onboard diagnostic system, which indicates NOx emissions, among other pollutants. The previously used tailpipe test did not measure NOx.

- The North Carolina Department of Environment and Natural Resources Division of Air Quality modeled these emission reductions for Cumberland County:
  - VOC: 0.6 Tons Per Day
  - NOx: 0.7 Tons Per Day
- This strategy was implemented on July 1, 2003.
- The adopting jurisdiction is all of Cumberland County.

#### *Retrofitting Diesel School Buses*

A \$50,000 grant has been received to fund retrofitting of 50 school buses serving the Fort Bragg Schools. It is expected that this project will decrease VOC emissions as well as other pollutants. The plan is to put Diesel Oxidation Catalysts on 50 school buses and crankcase spiracles on 13 of the 50.

- **Previous update:** The grant was officially signed and processed on September 20, 2004. The units are expected to be installed by Summer 2005 and will be installed before December 2005.
- **Previous update:** A company has been selected to perform the retrofit. The retrofit will take place before the start of the 2005-2006 school year.
- **Update:** Due to the supply of parts the retrofit was not completed during the summer of 2005. The parts had not been delivered until the start of the 2006 school year. Half of the fleet has been completed, however some additional parts that were not originally sent out to complete the installation have delayed the process of retrofitting the remaining buses. 8 of the school buses were removed completely from the fleet due to the age of the buses. Diesel oxidation catalysts will be installed on 42 of the buses. Crankcases spiracles will be installed on 24 of the 42 buses. As soon as the additional part are delivered that remaining buses will be retrofitted.

- The Environmental Protection Agency shows these approximate decreases for Diesel Oxidation Catalysts under their *Verified Retrofit Technologies*:
  - PM: At least 20%
  - CO: At least 13%
  - VOC: At least 42%
- The adopting jurisdiction is Fort Bragg.

## **CONSERVATION**

### ***Outdoor Burning Ban***

The North Carolina Environmental Management Commission approved a new rule that bans open burning on forecasted, “air quality action days”, Code Orange or above days. The ban applies to 39 counties in or around metropolitan areas of the state, including Cumberland County. The Division of Air Quality (DAQ) formed an Open Burning Outreach Team (OBOT). The team is responsible for helping to disseminate information to the public regarding open burning.

- The Division of Air Quality modeled these reductions for Cumberland County prohibiting open burning on code orange days (assuming a 50% compliance rate).
  - VOC: 0.2 Tons Per Day
  - NOx: 0.2 Tons Per Day
  - CO: 1.8 Tons Per Day
- This strategy was implemented on June 1, 2004.
- Previous Update: March 24, 2005 a member of the Open Burning Outreach Team (OBOT) gave a presentation of open burning for the Cumberland County Technical and Stakeholders Committee. On March 28, 2005, they gave another presentation with the Cumberland County Fire Association. On July 14<sup>th</sup> the OBOT is scheduled to give a presentation on open burning for the Cumberland Road Fire Department, which was requested for their whole department.
- **Update:** The July 14<sup>th</sup> OBOT presentation was given to the Road Fire Department. The DAQ arranged to have billboards put up across the State, there was one located in Cumberland County for at least 30 days. The DAQ also provides the local fire departments with literature concerning open burning for them to distribute to local the citizens. We also implemented an open burning information line 1-877-OPEN-BURN (1-877-673-6287).

- The adopting jurisdiction is all of Cumberland County

*Use renewable energy sources when available (i.e. solar and methane)*

**Landfill gas-to-energy projects provide environmental value by capturing methane emissions from landfills and displacing fossil fuel. Landfill gas is an attractive renewable energy alternative for many applications because of its 24 X 7 availability and high capacity factor (between 95 and 98%). Burning landfill gas converts methane into carbon dioxide, and therefore dramatically reduces the impact on climate change by reducing greenhouse gas (GHG) emissions. Landfill gas (LFG) procurement is both an opportunity for corporations to reduce their GHG emissions footprint and to create a more diversified energy portfolio. The World Resources Institute published a report, Corporate Guide to Green Power Markets. “Opportunities with Landfill Gas” is Installment 2 of this report. The Group has found that the most environmentally and economically attractive use of landfill gas, particularly in the absence of policy incentives such as production tax credits, is a medium-Btu “direct use” application, which Cargill, Inc. is currently using.**

Cumberland County Landfill harvests methane and through a contract with Biomass Energy, then sells the energy to Cargill Inc., a local industry. Cargill Inc. was using 1000 cubic feet/minute of landfill gas. As of June 2004, usage has been increasing steadily and forecasted to reach to 1600 cubic feet/minute by 2009. The first year Cargill reported use of landfill gas was in 1999 in the amount of 369,110,000 cubic feet.

- Estimated NOx reduction from this strategy is 5 tons per year. AP42, Table 2.4-5 was used to obtain emission reduction estimates. NOx savings were approximated using the flare NOx emission rate of 40 lb/million cubic feet, 252 million cubic feet/min of landfill gas usage (which is the increase of 600 cubic feet/minute multiplied by 7000 operating hours per year).
- In 2003 Cargill burned 67,983,000,000 cubic feet of landfill gas. Cargill is in the process of installing a larger gas boiler to burn additional landfill gas and hope to have it operational between May and August of 2005.
- Previous Update: Cargill was recently issued a permit to install and operate an additional boiler, which is capable of burning landfill gas. The heat input of this boiler is 53 million Btu per hour on landfill gas and 99 million Btu per hour on natural gas. It is the intention of Cargill Inc. to fully utilize all landfill gas generated by the Cumberland County Landfill.
- Previous Update: Cargil Inc. has purchased a new natural gas-fired boiler (53 million Btu per hour heat input for landfill gas and 99 million Btu per hour for

natural gas). This new boiler will make it possible to burn additional landfill gas. Cargil Inc. anticipates commissioning the new boiler by the end of March 2006.

- **Update:** Cargil Inc. has purchased a new natural gas-fired boiler (53 million Btu per hour hear input for landfill gas and 99 million Btu per hour for natural gas). This new boiler will make it possible to burn additional landfill gas. Cargil Inc. anticipates commissioning the new boiler by the end of March 2006.
- **Previous Update:** The Sustainable Sandhills Energy Team was recently awarded a \$5,000 Community Partner Small Grant from the NC Million Solar Roofs 2005. Sustainable Sandhills is an innovative partnership made up of participants from Fort Bragg, the surrounding community governments, nonprofits, citizens and universities from Cumberland, Harnett, Hoke, Moore, Richmond and Scotland Counties. One of the objectives of the Sustainable Sandhills Energy Team includes a commitment to promote the use of renewable energy within the region. The organization is now incorporated as a non-profit initiative.

The Sustainable Sandhills Energy Team has identified three key target audiences for promoting solar power and other alternative energy to include:

- (1) Home Owners  
The key messages to communicate to the homeowners include awareness of what types of solar energy are available, the benefits of renewable energy use, financial incentives, and how to find reliable installers in the region.
- (2) Installers, Business Owners, Developers and Local Governments  
The key messages for this category include a communication of the desire of the Sandhills community to use solar energy, the potential market availability, benefits of the solar industry, and financial incentives.
- (3) Youth  
A commitment to begin educating the Sandhills youth population on the benefits of solar power and the role of renewable energy in the region's future is in place.

To promote the initiatives goal of increasing awareness of solar energy technologies, benefits of renewable energy and available incentives, the team will develop a marketing plan to address the three target audiences. As a result of the lack of knowledge, recognition and understanding of solar applications, the major areas of focus for our marketing efforts will be in the areas of consumer understanding of solar applications and the benefits that can be gained from their use. To achieve this objective, a marketing plan is being established to share solar applications in the school systems around the region as well as participation in various local festivals or expositions that are appropriate. It is our intent to use PowerPoint presentations, brochures, and

working display models that are a part of the awarded grant to achieve the desired results of developing a better understanding of the benefits of using solar in the Sandhills region.

- **Update:** As part of the deliverables on the the SS Energy Team's **\$5500** grant from the NC Million Solar Roofs, the Team completed the following items:
  - Marketing Plan: with slight changes in the target audience definitions (businesses, building professionals, gov't & institutional, homeowners, youth).
  - Brochure: some of the grant funds were used to produce a Sustainable Sandhills brochure featuring a section on the Energy Team's activities.
  - Demonstration equipment: A portable solar hot water heating unit and a solar electric fountain unit were designed and fabricated by the team for use at festivals and fairs in 2006. A "human powered" unit (similar to a stationary bike) linked to a portable battery storage and inverter unit is also being fabricated. The portable battery storage unit will accept inputs from photovoltaic panels, the human powered unit and any other kind of renewable energy demo unit that the team decides to incorporate in the future. It allows standard 110V appliances or banks of lights to be powered "off-grid" by our renewable energy demo units at our booth exhibits!
- The adopting jurisdiction is Cumberland County.

## Non-Quantifiable Voluntary Strategies

### LAND USE

The following is from the EPA Air and Radiation Office of Transportation and Air Quality Improving Air Quality Through Land Use Activities, EPA420-R-01-001, January 2001.

*The physical characteristics and patterns of land development in a region can affect air quality by influencing the travel mode choices citizens have available to them. Development patterns that locate jobs, housing and recreation in closer proximity to each other, can mean shorter and fewer car and truck trips, thus reducing vehicle miles traveled (VMT) and likely reducing motor vehicle emissions. Other development patterns have the potential to improve or mitigate air quality problems by providing and promoting alternatives to vehicular travel, such as mass transit, walking, or biking. The most significant urban form features that can affect travel activity are:*

- *Density = infill*
- *Land Use Mix – incorporating different land uses (e.g. recreation, housing, employment, shopping) with a development, a neighborhood, or a region.*
- *Transit Accessibility – locating high-density commercial and residential development around transit stations, also known as “transit oriented development,” or TOD.*
- *Pedestrian-Environment/ Urban Design Factors – features that improve the pedestrian environment such as sidewalks, clearly marked crosswalks, shade trees, benches, and landscaping; also refers to features that improve the bicycling environment such as bike paths and dedicated bike lanes, bike parking and clear signs.*
- *Regional Patterns of Development – patterns of dispersion, centralization, or clustering of activities within a metropolitan area, as well as the relationship of development to highway and transit systems; involves the interrelationships between employment and residential development and the transportation connection between sets of origin and destination points*

*The air quality impacts of land use activities on transportation depend on numerous factors, including density and location of development, amount of development, mix of uses, and access to transportation alternatives. The interaction of these factors is complex, and due to the variations from one development project to another, each development needs to be analyzed individually. Studies have been conducted in Portland, Oregon; Sacramento and Los Angeles, California; Baltimore, Maryland; and Washington, DC that support VMT reduction associated with land use strategies over a 20 year time horizon.*



### *Landscape Ordinance*

Require landscaping of major nonresidential developments within the MSA. It is believed that this strategy will lower NO<sub>x</sub> emissions. The emission reductions are not currently quantifiable, but this strategy is directionally correct.

- Fort Bragg implemented the Sustainable Installation Design Guide setting landscape requirements for all new development in December 2003.
- **Update:** All new construction/renovation projects must comply with requirements in the Installation Design Guide.
- The City of Fayetteville adopted a buffer/landscape ordinance effective June 30, 2004 for all new development or redevelopment.
- Hope Mills has a landscape and tree preservation ordinance, however they are expected to revise their ordinance to include residential home sites in early 2005.
- Previous Update: Since 2001 the Town of Hope Mills has implemented a landscape and tree preservation ordinance. This ordinance is in the process of being revised to include residential home sites. The Planning Board has been reorganized and will begin a new schedule as of July 1. They will begin revisiting this ordinance with the beginning of the new fiscal year.
- **Update:** Due to the reorganization of the Planning Board and the Board of Commissioners the Town of Hope Mills has not revised the ordinance to include residential development, however they continue to have plans to re-address the ordinance at a later date. The ordinance currently applies to non-residential development.
- Cumberland County and the smaller jurisdictions are reviewing ordinance amendments to require landscaping on new non-residential developments.
- Previous Update: A draft of the ordinance amendments has been proposed to the Cumberland County Joint Planning Board and was referred to their Comprehensive Planning Committee for review. The Town of Wade and Godwin are currently governed by the Cumberland County Ordinance.
- **Update:** Cumberland County Planning Board adopted the ordinance unanimously on November 21, 2005.
- **Update:** The Town of Stedman adopted the ordinance unanimously on December 1, 2005.
- Previous Update: An illustration of the concept is being developed for the smaller jurisdictions.

- **Update:** Illustrations were developed for the smaller jurisdictions.
- The strategy will be implemented by December 2005 countywide.
- The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Hope Mills, Stedman, Wade, and Fort Bragg.

### *Transit/Pedestrian/Mixed Use Oriented Development*

Add a mixed-use alternative to zoning ordinance along transit lines and include sidewalks, shade trees, benches, and landscaping as well as bike paths/lanes, which will increase the desirability of walking and biking and promote the use of transit. Work with schools and parks to facilitate pedestrian crossing from subdivisions to schools. Fort Bragg is building upon existing mixed-use development by adding pedestrian trails and sidewalks. There is no way to quantify these emission reductions without an extensive base-line study and follow-up studies. However, NOx reductions are supported by the Portland, Oregon study cited on Page 26 of "Improving Air Quality Through Land Use Activities". The Portland, Oregon study supports 8% decrease in VMT and NOx emissions decrease of 6%.

- Cumberland County is revising its ordinances to include mixed-use development and released a draft in June 2004. Ordinance amendments will be adopted by December 2005.
- **Update:** June 20, 2005 the Cumberland County Commissioners unanimously approved the ordinance amendments to include Mixed Use Oriented Development.
- Fort Bragg requires all projects to include sidewalks and bicycle racks. Some of the major projects also include bus stops.
- **Update:** To minimize footprint and increase density a majority of new facilities on Fort Bragg are now multi-story.
- The Town of Wade requires sidewalks as part of its Subdivision Ordinance.
- **Previous Update:** The Fayetteville Area Metropolitan Planning Organization will host 8 Walkable Communities workshops across the local area. This is a \$20,000 investment designed to make the community more walkable and pedestrian friendly. The workshops are scheduled to take place in late April or early May 2005.



- **Update:** The 8 Walkable Communities workshops were held during the week of May 2-6. There was great attendance at each workshop, including local officials and citizens. A report of the workshops is being written and plans for further actions to get the communities that participated in the workshops more walkable are being addressed.
- The adopting jurisdiction is Cumberland County for all participating agencies.

### ***Infill Development***

Promote infill and brownfield development in urban areas, to utilize existing infrastructure and to decrease and/or maintain VMTs. Strengthening the downtown area through economic incentives, available for businesses in the downtown area through the Downtown Loan Program and Historic Properties, a public/private partnership. It is believed that this strategy will lower NOx emissions by decreasing VMT (promotes Pedestrian Transit and Mass Transit Use). The emission reductions are not currently quantifiable, but this strategy is directionally correct. Currently, the City of Fayetteville, Cumberland County and the Town of Stedman have ordinances that govern Zero Lot Line Developments, which foster land preservation and infill, while increasing density.

- Fort Bragg will continue to redevelop existing urban land use. The majority of projects are built on the currently developed sites instead of new, undisturbed sites as part of their Sustainable Installation Design Guide, which was implemented beginning in December 2003.
- **Update:** Fort Bragg continues to implement the guidance outlined in the strategy.
- **Previous Update:** The Town of Wade is considering adding Zero Lot Line Ordinance to its subdivision ordinance, encouraging infill development and it will be implemented by December 2005.
- **Update:** The Town of Wade has adopted and implemented the Zero Lot Line Ordinance to its subdivision ordinance as of 2005.
- The adopting jurisdictions are Fort Bragg and the Town of Wade.

### ***Shared Parking Facilities and Connectivity***

This will reduce the amount of impervious surface, which contributes to the heat island effect and reduces the amount of stop and go traffic. It is believed that this strategy will lower NOx emissions by decreasing VMT. Although the emission reductions are not currently quantifiable, this strategy is directionally correct. The

City of Fayetteville and the Town of Hope Mills have ordinances to allow shared parking. They include provisions for lateral access and connectivity.

- **Pervious Update:** Cumberland County is revising the Zoning Ordinance and will include lateral access and connectivity as a part of it. Ordinance amendments will be adopted by December 2005.
- **Update:** June 20, 2005 the Cumberland County Commissioners unanimously approved the ordinance amendments to include shared parking facilities and connectivity.
- **Pervious Update:** The Town of Linden is in the process of developing a zoning ordinance that will allow for shared parking facilities and connectivity. The strategy will be implemented by December 2005.
- **Update:** The Town of Linden is scheduled to have an unplanned meeting December 27, 2005 to address the shared parking and connectivity ordinance.
- **Previous Update:** The Town of Linden has organized a beautification committee, which is represented by 3 board members and a Cumberland County Planner.
- **Update:** The Town of Linden beautification committee has been meeting since August 2, 2005. They are currently examining adopting an open burning policy regarding offsite burning of household trash and debris.
- The adopting jurisdictions are Cumberland County, Falcon, Godwin, Linden, and Wade.

### *Urban Reforestation/ Green Space*

The Public Works Commission has policies to maintain tree coverage in watershed areas and seek to expand land acquisition for preservation of the watershed. NC Forest Services is seeking grant funding to plant at least 100 trees. Cumberland County completed a public green space inventory of the entire county in March 2004 and a conservation subdivision option will be investigated. It is believed that this strategy will lower NOx emissions by reducing the heat island affect. Although, the emission reductions are not currently quantifiable, this strategy is directionally correct.

- Since 2003, the Watershed Resource Team with PWC have added about 60 acres to the watershed buffers and have planted about \$2000 worth of plant species.
- The NC Forest Service on March 31, 2004 planted 250 trees throughout Pope Air Force Base, Fayetteville, and other parts of Cumberland County, exceeding their goal of 100 trees. They plan to make this an annual event as part of Arbor Day.

- Previous Update: As part of Arbor Day 2005 events at Pope AFB, the NC Forest Service planted 250 longleaf pine trees.
- Previous Update: Fort Bragg has planted 836 trees on post since January 1, 2004 and continues to plant with all new developments and buildings. Of the 836 trees planted, 483 have been planted since July 2004.
- Previous Update: To date nearly 1,100 trees have been planted on Fort Bragg this year.
- Previous Update: There have been 100 Dogwood trees planted around the City of Fayetteville as of April 2005 in celebration of The Public Works Commission 100<sup>th</sup> Anniversary.
- The adopting jurisdictions are the City of Fayetteville and Fort Bragg.

### **MOBILE SOURCES**

The Fayetteville MSA reviewed many Alternative Fuels (AF) and Alternative Fueled Vehicle (AFV) possibilities, but, because the infrastructure is not in place at this time and developing it would be cost prohibitive and it could not be implemented by December 2005, no other governments agreed to participate. Mobile source strategies will be reviewed and evaluated for long range planning in this area.

#### **Alternative Fuels and AF Vehicles**

Fort Bragg has developed a plant to convert its fleet to Bio-Diesel 20 and Ethanol E85. This project includes an AF fueling station. 185 vehicles will be converted to B20 (100,000 gallons of diesel fuel). 158 Flexible Fuel vehicles will use approximately 55,000 gallons of E85 per year. This strategy is expected to reduce VOC and in turn hazardous air pollutants (HAPs), NOX and particulate matter. The bio-diesel strategy shows a slight increase in NOx emissions, however with the other pollutant reductions, this strategy is believed to be of value.

- Previous Update: To date, 25 off-road vehicles have been converted to B20. In Fiscal Year '03 Fort Bragg used 7,755 gallons of B20. In Fiscal Year '04 that number increased to 10,000 gallons.
- Previous Update: Estimated B20 usage for FY05 is 30,000 gallons.
- Fort Bragg expects to have an alternative fueling facility completed and their gasoline-powered vehicles converted to E85 in Fiscal Year '05.

- Previous Update: Site for E85 facility has been approved and project assigned.
- **Update:** The COCO (contractor-owned, contractor-operated) facility is working with DLA (Defense Logistics Agency) to secure funding for tanks and pumps.
- Previous Update: The Public Works Commission has purchased a Hybrid Ford Escape (gasoline/electric) for use by employees.
- The adopting jurisdictions are Fort Bragg and the City of Fayetteville through the Public Works Commission.

### ***Idling Restrictions***

Festival Park will include electrical outlets to be used by vendors/exhibitors to reduce truck idling during festivals and events. It is expected that this strategy will decrease NOx emissions. Festival Park construction is scheduled to begin on March 1, 2005 and to be completed by September 20, 2005.

- Previous Update: Construction of Festival Park is on schedule and due to open September 20, 2005.
- **Update:** Construction of Festival Park is still in development. The project was divided into two separate projects, North side & South side, due to the overall cost when the project was bid together as one large project. The South side of Festival Park has been completed and work will begin on the North side project in December, with about 11 months to finish.
- The adopting jurisdiction is the City of Fayetteville.

## **TRANSPORTATION**

### ***Using Intelligent Transportation Systems (ITS) and Dynamic Message Signs (DMS) for Congestion Management and Ozone Alerts***

Project U-3635, Closed Loop Signal System, will provide a new area-wide closed loop signal system. Dynamic Message Signs will be installed at congested intersections/corridors. There will be an expansion of existing continuous flow right turn lanes in the urbanized area. It is expected that this project will decrease NOx emissions by decreasing traffic congestion. It is currently difficult to quantify this effort, however other examples of this system have shown anywhere from 0-20% reductions in traffic congestion resulting in less idling, travel time, and, as a result, NOx emission reductions.

- The summer of 2005 is the expected completion time for the closed loop signal system.
- Previous Update: October of 2005 is the most recent projected date of the closed loop signal system. The project has experienced some delays because the city wants to have the latest and best software installed, so it is not outdated by the time the system gets up and running.
- **Update:** ITS program includes 220 traffic signals. All of the cameras, which will support the system, are in place, 7 of those cameras are currently running. The delay in the project was due to the state software.
- Two dynamic message signs along I-95 have been installed, but are not yet operational.
- Previous Update: The two dynamic message sign along I-95 are operational.
- **Update:** There are two more dynamic message sign that will be installed along the 401 bypass. Those dynamic message signs were delayed due to a sub sequential agreement for additional work, which was not included in the original contract. An amendment to the contract to reorder additional materials was needed. The project has continued as planned and is scheduled to be operational February 2006.
- The adopting jurisdictions are Cumberland County, City of Fayetteville, and Hope Mills.

### ***Enhance Mass Transit System***

The Fayetteville Area System of Transit is redesigning routes to be more convenient to riders and plans to increase frequency of transit services to 15 minutes. The plan is a hybrid deviated fixed route demand response system. It allows for riders to be picked up from their home by a van and transported anywhere in that zone by the van. Riders also can be picked up and taken to a large super stop, where they can catch the bus and be transported all across the service area. Increase transit service is expected to reduce VOC and NOx emissions by reducing VMT.

- The enhanced transit service is expected to be in place by December 2005. The plan has been presented to all of the local municipalities involved and is currently in the funding planning phase. Dates of presentations:
  - Fayetteville City Council: January 12, 2004
  - Spring Lake Commissioners: March 22, 2004
  - Hope Mills Commissioners: April 19, 2004
  - Cumberland County Commissioners: May 3, 2004

- Previous Update: On January 25, 2005, the transit director presented a countywide transit service proposal to the City-County Liaison Committee. All City of Fayetteville and Cumberland County elected Officials, City and County Managers are represented on this committee. On June 27, 2005 the transit director will give an updated presentation to the City Council on the enhanced mass transit system. With the adoption and financing of this project, it will address the strategy to increase Rural Transportation Paratransit.
- **Update:** The City of Fayetteville has continued planning the countywide transit system. There have been numerous presentations addressing the plan. An amendment to the FFY 2006-2012 MTIP has been approved to fund 16 vans for service expansion.

Fort Bragg initiated a shuttle service providing transportation around the post and connecting with municipal transit. They have also implemented a Saturday Express Shuttle that transports Fort Bragg residents to Cross Creek Mall.

- **Update:** The Fort Bragg shuttle service continues to provide transportation around the installation and connection with the municipal transit system.
- The Fort Bragg shuttle service began on June 1, 2003 and is ongoing. Average weekly ridership for the shuttle is between 650-750 riders.
- **Update:** Average weekly ridership on the Fort Bragg shuttle has risen to just over 1,580 per week.
- The Fort Bragg Saturday Express Shuttle started with two Saturdays during the Christmas Holidays of 2003. However, it became permanent in the summer of 2004. The average ridership is approximately 50 passengers per week.
- **Update:** Due partly to deployment The Fort Bragg Saturday Express Shuttle, funded by Cross Creek Mall, was canceled due to insufficient ridership.
- The adopting jurisdictions are City of Fayetteville and Fort Bragg.

### *Formulate Car and Van Pooling*

The Fayetteville Area System of Transit changed a staff position from Special Projects Coordinator to Ridesharing and Community Outreach Coordinator. This is an effort to expand public outreach for FAST and encourage more ridesharing and vanpooling. Work is being done to develop a database to connect riders. The transit provider is advertising vanpooling and carpooling programs. FAST has received a license from DOT for database matching software. The software is regionally based to where coordination can be made across county lines. This



strategy is believed to decrease NOx emissions based upon an increase in public transit usage and car and vanpooling, and a decrease in VMT.

- This strategy was implemented in June of 2004 and is ongoing.
- Previous Update: On April 29, 2005, FAST submitted a grant proposal for the Van Pooling program. On July 7, 2005 the committee will meet to discuss the grant applications and in August they will make a final decision on grant recipients.
- **Update:** The grant process is an annual submittal. The previous grant application was submitted and was suggested by state to make some modification and resubmitted the proposal in April 2006. The grant is in the process of being modified for submittal in April 2006.
- Previous Update: The Ridesharing and Community Outreach Coordinator attended several workshops on Commuter Choice Transportation and developed a Ridesharing Manual and the Emergency Ride Home element of the plan. In 2005, the coordinator is revising the proposal to reflect changes in insurance, training and to implement the rate per mile established by finance based on revenue and expenditure projections from previous year. Also, in April, the coordinator submitted an application initiating administrative assistance for the Vanpool/Carpool Program.
- **Update:** The Ridesharing and Community Outreach Coordinator continue to attend training and workshops. The administrative assistance for the Vanpool/Carpool program is apart of the proposal, which they will be resubmitting in April 2006.
- The adopting jurisdiction is the City of Fayetteville.

#### ***Increase Rural Transportation Paratransit***

Rural transportation is currently being expanded to connect outlying areas of the county and smaller municipalities. Quantification will be provided when implemented.

- The strategy will be implemented by December 2005.
- Previous Update: We are in the preliminary planning of reinstating the Town of Hope Mills route, using NCDOT PTD funds. Funding has been allocated. We plan to have this route reinstated by early fall.
- **Update:** The Town of Hope Mills route has been approved by the town and is scheduled to go on the Fayetteville City Council agenda in January. As soon as it

is approved by the City of Fayetteville the route will be implement as soon as February 2006.

- The adopting jurisdiction is the City of Fayetteville.

### ***Encourage Park and Ride for Large Events***

FAST and Private Transportation providers are providing shuttle services at nominal cost to the public. Fort Bragg provides internal transportation services for large on-post events at no cost to the rider. Updates will be given for the events and included in semi-annual updates.

- The implementation of this strategy is ongoing as special events come up (i.e. Festival of Flight, May 16-26, 2003).
- **Update:** FAST and Private Transportation providers continue to provide shuttle services on request for special events.
- Previous Update: Internal transportation services were supplied for the following events: Pope Open House and All American Week. Bus transportation is also implemented in support of deployment and redeployment of units, including Rapid Field Issue (RFI).
- **Update:** Fort Bragg has continued to use this strategy as an option for large on post events.
- The adopting jurisdictions are City of Fayetteville and Fort Bragg.

## **CONSERVATION**

### ***Use renewable energy sources when available (i.e. solar and methane)***

Encourage residents and businesses to support NC Green Power, a nonprofit program working to encourage development of renewable energy sources. A \$4.00 contribution purchases one block of green power (equivalent to 100 kilowatt-hours). We are working with NC Green Power to obtain the number of blocks of green power purchased by Cumberland County Residents.

- Implementation started in Spring 2004 and will continue to be promoted during AQ outreach, and we will include link on Cumberland County Transportation website.
- **Update:** A typical contribution of just \$4 per month adds one block of 100 kilowatt-hours of green energy to North Carolina's power supply. Cumberland



County residence has purchased a total of 257 Blocks. Each block is equal to 100 Kilowatt-hours.

- The adopting jurisdiction is Countywide.

***Retrofitting of public buildings. Encourage construction of energy efficient buildings.***

Through the “Guaranteed Energy Savings Contract”, the County will engage a company to evaluate and upgrade buildings, equipment and material to increase energy efficiency. PWC is a member of the “Good Cents” Housing Program. Participating builders receive heat pump rebates and free listing of energy efficient homes for sale in the local newspaper and on the PWC website. Smaller municipalities are also promoting the “Good Cents” Housing Program. Fort Bragg is currently implementing energy reduction per Executive Order 13123 and as part of its Sustainability Plan by partnering with Honeywell Corporation to retrofit buildings on Fort Bragg (replacing inefficient interior/ exterior lighting, installing new HVAC systems with energy controls for optimum building performance. Fort Bragg also constructs new homes and retrofits older homes to meet “ENERGY STAR” standards. It is believed that this strategy will lower NOx emissions by reducing the output needed from fossil fuel plants to heat and cool homes and public building. The local EAC is still trying to quantify emission reductions, but feel this strategy is directionally correct.

- Previous Update: Cumberland County has selected a company to retrofit 12 public buildings to comply with the “Guaranteed Energy Savings Contract”. Construction is projected to begin in January of 2005.
- Previous Update: Cumberland County completed a contract on September 9, 2004 to replace 144,000 square feet of black roofing with light colored roofing.
- Previous Update: The retrofit of the 12 public buildings by Cumberland County has begun and is still in progress.
- Previous Update: As of May 2005 Cumberland County has completed replacing 140,000 SF of roof area with a light colored surface to reflect the sunlight.
- **Update:**
  1. Retrofit of lighting and HVAC controls is 90% complete; all work should be completed by Feb 2006
  2. Nearing completion of roof replacement on three buildings with light colored material. 25,600 SF
  3. Scheduled roof replacement for spring 2006 approximately 11,000 SF
- The promotion of “Good Cents” Housing Program and Fort Bragg’s energy reduction program are ongoing.

- Fort Bragg continues to encourage the use of light colored, high reflective materials for pavement and roofs with new and retrofitted buildings. They also encourage the use of pervious pavement where applicable.
- The adopting jurisdiction is Cumberland County for all participating agencies.

***Encourage Construction and Use of Energy Efficient Equipment and Promote Purchase of “Green”/less polluting products.***

Fort Bragg is implementing energy reduction strategies including low NO<sub>x</sub> burners in new major emission sources, is increasing the use of water-based paints to reduce VOC emissions and has installed a paint booth which uses only water-based paint, and is researching alternatives to replace two incinerators. These strategies will lower NO<sub>x</sub> and VOC emissions. Research efforts will include emission reductions.

- Previous Update: During the Summer 2004, Fort Bragg did research on alternatives for the incinerators. However, the alternatives did not yield sufficient results to make a change.
- On May 5, 2004, Fort Bragg shipped 8,915 pounds of Class I Ozone Depleting Substances (ODS) off the installation to the Defense Depot in Richmond, Virginia. The substances are replaced with much more environmentally safe alternatives.
- Fort Bragg continues to encourage the use of energy-efficient appliances in all renovations and new construction projects as well as low-flow appliances (showers, toilets, etc.) and limited or no irrigation. They also encourage the use of no VOC containing paints, sealants, or adhesives.
- **Update:** Fort Bragg has continued to implement the strategy outlined. The water-based paint booth was installed May 2005 and was available for use beginning November 2005.
- The adopting jurisdiction is Fort Bragg.

## **AWARENESS**

### ***FAMPO Air Quality Staff Position***

The Fayetteville Area Metropolitan Planning Organization created a fully funded Air Quality Coordinator staff position. The staff person is responsible for coordinating air quality outreach efforts in Cumberland County as well as preparing and maintaining Early Action Compact information. It is believed that this strategy will reduce NO<sub>x</sub> and VOC emissions based upon this person working with different organizations to get the word out and get the community working on improving the Air Quality.

- This strategy was implemented in March of 2003 and is ongoing.
- Previous Update: The Air Quality Staff person has attended numerous training sessions on air quality and initiated many outreach programs.
- **Update:** The Air Quality Staff person continues to attend numerous training sessions on air quality. The staff person has also developed a clean air campaign along with a new partnership with Division of Air Quality Fayetteville Regional Office.
- The adopting jurisdiction is Cumberland County for all participating agencies or local government.

### ***Student Outreach through Education Systems***

Ongoing effort using the “GLOBE” program, a worldwide hands-on, primary and secondary school-based educational science program. This is a cooperative effort, led in the US by a federal interagency program supported by NASA (National Aeronautics & Space Administration), NSF (National Science Foundation), EPA (Environmental Protection Agency) and the U.S. State Department. There are currently 65 teachers in Cumberland County who are trained and present the program that promotes environmental stewardship and research. Staff, Air Quality Stakeholders, and Technical Committee members are also providing classroom presentations upon request. It is believed that this strategy will lower NO<sub>x</sub> emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct.

- Previous Update: The Watershed Action Team (WAT) is near completion with part two of the GLOBE Atmosphere training. Subsequent to this training we will

have 21 schools with weather stations and seven ready to collect Ozone (surface) readings.

- **Update:** Part two of the GLOBE Atmosphere training has been completed. 11 Cumberland County School are now equipped to take ozone readings. 11 other Cumberland County schools will be equipped to collect ozone readings once they agree to collect 2 months worth of data.
- The adopting jurisdiction is Cumberland County.

### ***Public Education/Outreach at Community Events & Churches***

This is an ongoing effort through the Speakers Bureau. Staff and volunteers participate in festivals, fairs, community meetings, etc to provide information on air quality and the individual measures that can be taken to improve the air we breathe. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct.

- The implementation of this strategy began with the first outreach event, the Spring Nature Fair, at Clark Park on April 5, 2003 and is ongoing.
- Previous Update: We are continuing every effort to attend public events where we can educate the public about air quality. On April 16, 2005 we were able to implement this strategy at Spring Lake's Spring Fling. On April 23-24, 2005, staff also participated in the annual Fayetteville Dogwood Festival. This strategy is ongoing.
- **Update:** We have attended various community events voluntarily and by request. The events and dates are listed in the introductions.
- The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Linden, Spring Lake, Stedman, and Wade.

### ***Speakers Bureau***

Participation in radio/television programs to reach the general public with air quality information and tips, advertise meetings and involve the local newspapers and churches in disseminating information to increase public awareness and participation in implementing voluntary reduction strategies. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct.

- This strategy was implemented with the first regular Cumberland County Air Quality Stakeholders meeting on May 15, 2003 and is ongoing.
- Previous Update: Air Quality Stakeholder meetings are ongoing. On March 24, 2005 the Planner Director gave an air quality presentation to the Cumberland County Business Council.
- **Update:** We continue to have speakers available for events/programs. The events and dates are listed in the introduction.
- The adopting jurisdictions are Cumberland County, City of Fayetteville, Falcon, Godwin, Linden, Spring Lake, Stedman, and Wade.

### *Air Quality Web Page*

Maintained and updated by FAMPO (Fayetteville Area Metropolitan Planning Organization). The site provides information on upcoming meetings, seasonal air quality tips, the Early Action Compact program and other relevant topics. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not currently quantifiable, this strategy is directionally correct.

- This strategy was implemented in March of 2003 and is ongoing.
- Previous Update: The air quality web page is currently being remodeled and updated to maintain accurate information and links while becoming more users friendly.
- **Update:** The web page is updated on a regular basis. The page includes links to other air quality websites, local air quality outreach material and past and previous winner to air quality contests that we hold.
- The adopting jurisdiction is Cumberland County for all participating agencies.

### *Promote Bus Ridership for Youth*

Fayetteville Area System of Transit (FAST) is promoting bus tours for children of all ages, educating them on how to use the transit system and the benefits of using transit (including air quality and health issues). Various organizations have tours for groups (i.e. Boys and Girls Club) that include giving them free bus passes. It is believed that this strategy will lower NOx emissions by increasing future mass transit use and decreasing VMT. Although the emission reductions are not currently quantifiable, this strategy is directionally correct.

- The implementation of this strategy is ongoing.
- The adopting jurisdiction is the City of Fayetteville.

*Air Quality Educational System at the local libraries.*

Air Quality handouts and flyers are made available at all branches. Make available for children's summer program. It is believed that this strategy will lower NOx emissions by raising awareness. Although, the emission reductions are not likely quantifiable, this strategy is directionally correct.

- The implementation of this strategy for the local libraries began in May of 2003 and is ongoing. Inclusion in the children's summer reading program will start in the summer of 2005.
- Previous Update: Plans have been made to implement air quality awareness programs at every branch library in Cumberland County. These programs are aimed at educating children on air quality. We will kick off the programs with an informational booth at their end of the summer reading program celebration at the end of July, and the regular programs are scheduled to begin in August 2005 and will be ongoing.
- **Update:** The Air Quality Coordinator along with a partner for DAQ organized and presented all 7 Cumberland County Library with the "Fresh Air" program.
- The adopting jurisdiction is Cumberland County for all participating agencies.

*Air Quality poster/essay contest for schools.*

Air Quality related contest to raise air awareness. It is believed that this strategy will lower NOx emissions. Although the emission reductions are not likely quantifiable, this strategy is directionally correct.

- The implementation of this strategy began in 2003 with the 2003-2004 school year for public schools and will begin in November 2004 for public and private schools for the 2004-2005 school year.
- Previous Update: We completed our second annual poster/essay contest for 2004-2005 school year. A calendar was constructed of the winners from the first poster contest, highlighting such days as ozone season and Air Quality Week. We are now making plans to conduct our third annual poster/essay contest for 2005-2006 school year.

- **Update:** November 2005 we completed our third annual poster/essay contest. There are plans to construct an information air quality book, which will include some of the entries of the contest.
- The adopting jurisdiction is Cumberland County for all participating agencies.

**Early Action Compact December Progress Summary Table**

<b>A. Control Measure</b>	<b>B. Summary Description of Measure</b>	<b>C. Program/Measure Status</b>	<b>D. Specific Implementation Date</b>	<b>E. VOC Reduction</b>	<b>F. NO<sub>x</sub> Reduction</b>	<b>G. Resources (FTE's \$\$\$)</b>	<b>H. Additional Information</b>
Expand vehicle I & M	Expansion of the vehicle emissions inspection and maintenance program.	The program has expanded from 9 counties to 48, and improved the testing method.	July 2003	0.6 TPD	0.7 TPD	N/A	N/A
Retrofit school buses	Retrofitting 66 school buses serving the Fort Bragg Schools.	Due to the supply of parts the retrofit was not completed during the summer of 2005. The parts had not been delivered until the start of the 2006 school year. Half of the fleet has been completed, however some additional parts that were not originally sent out to complete the installation have delayed the process of retrofitting the remaining buses.	Early 2006	0.42	N/A	\$50,000 grant from NCDENR	N/A
Open burning ban – ozone action days	The North Carolina Environmental Management Commission approved a new rule that bans open burning on forecasted, “air quality action days”, and code orange or above.	The ban applies to 39 counties including Cumberland County. The DAQ formed an open burning outreach team, who disseminate information to the public.	June 2004	0.2 TPD	0.1 TPD	N/A	N/A
Use landfill gas;	Cumberland County Landfill harvests	Cargil Inc. has purchased a new	On-going	N/A	0.014 TPD	N/A	N/A



A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NO <sub>x</sub> Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
	methane and through a contract with Biomass Energy, then sells the energy to Cargil Inc., a local industry. Cargil has continued to increase their use of landfill gas.	natural gas-fired boiler (53 million Btu per hour heat input for landfill gas and 99 million Btu per hour for natural gas). This new boiler will make it possible to burn additional landfill gas. Cargil Inc. anticipates commissioning the new boiler by the end of March 2006.					
Support NC Green Power	NC GreenPower is an independent, nonprofit organization established to improve North Carolina's environment through voluntary contributions toward renewable energy.	A typical contribution of just \$4 per month adds one block of 100 kilowatt-hours of green energy to North Carolina's power supply. Cumberland County residence has purchased a total of 257 Blocks. Each block is equal to 100 Kilowatt-hours.	On-going	N/A	N/A	N/A	<a href="http://www.ncgreenpower.org/">http://www.ncgreenpower.org/</a>
Landscape Ordinance – non residential	Require landscaping of major non-residential	Town of Hope Mills: Due to the reorganization of the	Town of Hope Mills: 2006	N/A	N/A	N/A	N/A

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NO <sub>x</sub> Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
Landscape Ordinance – non residential	developments within the MSA.	<p>Planning Board and the Board of Commissioners the Town has not revised the ordinance to include residential development, however they continue to have plans to re-address the ordinance at a later date. The ordinance currently applies to non-residential development.</p> <p>Cumberland County: The ordinance was adopted unanimously.</p> <p>Town of Stedman: The ordinance was adopted unanimously</p> <p>Town of Falcon: December 13, 2005 staff recommended approval of landscape ordinance. December 20, 2005 the ordinance was proposed to the planning board. Planning board recommended approval. January 9, 2006 the Town of Falcon Town Board</p>	<p>Cumberland County: November 21, 2005</p> <p>Stedman: December 1, 2005</p> <p>Town of Falcon: January 2006</p>				

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
		will have the opportunity to adopt the ordinance.					
Pedestrian Trails	Fort Bragg is building upon existing mixed-use development by adding pedestrian trails and sidewalks.	Fort Bragg continues to implement this strategy with existing mixed-use development.	On-going	N/A	N/A	N/A	<a href="http://www.bragg.army.mil/sustainability/">http://www.bragg.army.mil/sustainability/</a>
Brownfield development	Promoting infill and brownfield development in urban areas, to utilize existing infrastructure and to decrease and/or maintain VMT's.	Fort Bragg: continues to implement the guidance developed under the Sustainable Installation Design Guide.  Town of Wade: Zero Lot line Ordinance was added to their subdivision ordinance as of January 2005.	Fort Bragg: On-going  Town of Wade: January 2005.	N/A  N/A	N/A  N/A	N/A  N/A	<a href="http://www.bragg.army.mil/sustainability/">http://www.bragg.army.mil/sustainability/</a>  N/A
Shared parking facilities	This will reduce the amount of impervious surface, and reduces the amount of stop and go traffic.	Cumberland County: Unanimously adopted.  Town of Linden: The Town is scheduled to have an unplanned meeting on	Cumberland County: June 2005  Town of Linden: January 2006	N/A  N/A	N/A  N/A	N/A  N/A	N/A  N/A

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NO <sub>x</sub> Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
		December 27 to address the shared parking and connectivity ordinance. If adopted the ordinance will mirror Cumberland County's shared parking and connectivity ordinance.					
Green space inventory	A map of all the public green space inside the county.	Cumberland County completed a public green space inventory of the entire county.	March 2004	N/A	N/A	N/A	N/A
185 Vehicles converted to bio diesel	185 vehicles on Fort Bragg will be converted to B20 (100,000 gallons of diesel fuel).	Due to lack of infrastructure Fort Bragg has not completed converting their fleet. They are continuing to investigate a more feasible solution to storing and distributing B20.	On-going	0.005 TPD	0.003 TPD	N/A	N/A
Electrical outlets – reduce truck idling	A new development in the City of Fayetteville, "Festival Park," will include electrical outlets to be used by vendors/exhibitors to reduce truck idling during festivals and events.	Festival Park is currently in development. The project was divided into two separate projects, North side & South side, due to the overall cost when the project was bid together as one large project. The South	Fall 2006	N/A	N/A	Progress Energy \$10 Million	<a href="http://www.cityoffayetteville.org">http://www.cityoffayetteville.org</a>

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
		side of Festival Park has been completed and work will begin on the North side project in December, with about 11 months to finish.					
Using ITS and dynamic message	Intelligent Transportation System will include a system of interconnected traffic signals (signal controllers) whose major objective is to support continuous movement and minimized delay along an arterial or a network of arteries.	ITS program includes 220 traffic signals. All of the cameras, which will support the system, are in place, 7 of those cameras are currently running.	ITS, December 2005	N/A	N/A	Committed	N/A
Using ITS and dynamic message	Dynamic message sign will be installed at congested intersection/corridors.	Dynamic message signs program was delayed due to a sub sequential agreement for additional work, which was not included in the original contract. An amendment to the contract to reorder additional materials was needed.	Dynamic message signs, 2 along I-95 completed Spring 2005, 2 along 401 Bypass will be operational February 2006.	N/A	N/A	Committed	N/A
Enhance mass transit	The City of Fayetteville is in the process of developing a countywide transit system to serve a larger population than	The City of Fayetteville has continued planning the countywide transit system. There have been numerous	On-going	N/A	N/A	Federal, State and Local Funding	<a href="http://fayettevilleonline.com/fast/">http://fayettevilleonline.com/fast/</a>

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
	the existing citywide transit system.	presentations addressing the plan. An amendment to the FFY 2006-2012 MTIP has been approved to fund 16 vans for service expansion.					
Develop database – carpool	ShareTheRide.com is a free ridematching service that provides you an easy way to find others in your area who are interested in sharing the ride to work in a carpool or vanpool.	A database is available where interested participants may log-on and input data to sign up for a car/van pool statewide.	On-going	N/A	N/A	N/A	<a href="http://www.sharetheride.com/">http://www.sharetheride.com/</a>
Develop database – carpool		The state has purchased five licenses for software to be used by participants. The software is called Ridepro. This program allows participants to connect with local individuals who would be interested in a car/van pool.	On-going	N/A	N/A	State Funded	N/A
Increase rural paratransit	Rural transportation is currently being expanded to connect outlying areas of the county and smaller municipalities.	The Town of Hope Mills route has been approved by the town and is scheduled to go on the Fayetteville City Council agenda in January. As soon as it is approved by the	February 2006	N/A	N/A	Federal, State, and Local Funding	N/A

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
		City of Fayetteville the route will be implement as soon as February 2006.					
Encourage Park and Ride for events	FAST and Private Transportation providers provide shuttle services at nominal cost to the public.  Fort Bragg provides internal transportation services for large on-post events at no cost to the rider.	FAST and Private Transportation providers continue to provide shuttle services on request for special events.  Fort Bragg has continued to use this strategy as an option for large on post events.	On-going       On-going	N/A       N/A	N/A       N/A	N/A       N/A	N/A       N/A
Energy Efficient Buildings	Through the "Guaranteed Energy Savings Contract", the County will engage a company to evaluate and upgrade buildings, equipment and materials to increase energy efficiency.	1. Retrofit of lighting and HVAC controls is 90% complete; all work should be completed by Feb 2006  2. Nearing completion of roof replacement on three buildings with light colored material. 25,600 SF  3. Scheduled roof replacement for spring 2006	On-going	N/A	N/A	Committed	N/A

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
		approximately 11,000 SF					
Energy reduction – LNB; water based paints	Fort Bragg is implementing energy reduction strategies to include low NOx burners in new major emission sources and increasing the use of water-based paint by installing a paint booth, which uses only water-based paint.	Fort Bragg has continued to implement the strategy outlined.  The water-based paint booth was installed May 2005 and was available for use beginning November 2005.	On-going  November 2005	N/A  N/A	N/A  N/A	N/A  N/A	<a href="http://www.bragg.army.mil/sustainability/goal6.htm">http://www.bragg.army.mil/sustainability/goal6.htm</a>
Air Quality Coordinator	The Fayetteville Area MPO created a fully funded Air Quality Coordinator staff position.	The Air Quality Coordinator position has been implemented as of March of 2003.	On-going	N/A	N/A	Committed	N/A
Student Outreach	GLOBE (Global Learning and Observations to Benefit the Environment) is a worldwide hands-on, primary and secondary school- based education and science program.	Part two of the GLOBE Atmosphere training has been completed. 11 Cumberland County school are now equipped to take ozone readings. 11 other Cumberland County schools will be equipped to collect ozone readings once they agree to collect 2 months worth of data.	On-going	N/A	N/A	Cargill, Inc. and Cumberland County Schools	<a href="http://www.globe.gov/globe_flash.html">http://www.globe.gov/globe_flash.html</a>
Public education outreach	A partnership between FAMPO and DAQ Fayetteville	We have attended various community events voluntarily	On-going	N/A	N/A	FAMPO and DAQ	N/A



A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's \$\$\$)	H. Additional Information
	Regional Office allows staff and volunteers to participate in festivals, fairs, community meetings, etc. to provide information on air quality.	and by request.					
Speakers Bureau	Participation in radio/television programs to reach the general public.	We continue to have speakers available for events/programs.	On-going	N/A	N/A	N/A	N/A
Air Quality web page	Fayetteville Area MPO developed an air quality web page.	The web page is updated on a regular basis and we incorporated a links page to other air quality websites.	Ongoing	N/A	N/A	FAMPO	<a href="http://www.fampo/airquality.com">www.fampo/airquality.com</a>
Promote bus youth riders	Fayetteville Area System of Transit (FAST) promotes bus tours for children of all ages, educating them on how to use the transit system and the benefits of using transit.	FAST continues to offer this service to various organizations and groups.	Ongoing	N/A	N/A	FAST	N/A
Education – libraries	To educate children in grades K-7, “ <b>Fresh Air</b> ” presentations were planned for all the Cumberland County Library.	The Air Quality Coordinator along with a partner for DAQ organized and presented all 7 Cumberland County Library with the “Fresh Air” program.	August 2005	N/A	N/A	FAMPO	N/A

**North Carolina  
Early Action Compact Area  
8-Hour Ozone Maintenance Plan  
Tracking Report**



**December 20, 2005**

## **Preface**

This document contains the 8-hour ozone maintenance plan tracking report for Early Action Compact Areas in North Carolina.

## Executive Summary

### **The Early Action Compact (EAC) Agreement**

Early Action Compact (EAC) areas were given the opportunity to develop local control strategies to meet the 8-hour ozone national ambient air quality standard (NAAQS) earlier than required by the Clean Air Act. In turn, the United States Environmental Protection Agency (USEPA) agreed to defer the effective date of the nonattainment designation for these areas. If an EAC area attains the 8-hour ozone NAAQS by December 31, 2007 and meets all of their EAC milestones, the USEPA will designate the area as attainment. The EAC areas in North Carolina (NC) include the Cumberland County EAC area; the Mountain EAC area (Buncombe, Haywood and Madison Counties); the Triad EAC area (Alamance, Caswell, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry and Yadkin Counties); and, the Unifour EAC area (Alexander, Burke, Caldwell, and Catawba Counties).

### **Annual Review of Growth**

The annual review of stationary point source emissions shows NC EAC areas experienced decreases in NO<sub>x</sub> emissions for the period evaluated. Two individual counties within EAC areas, Haywood County and Yadkin County, reported NO<sub>x</sub> emissions from stationary point sources at levels high enough to meet one of two action triggers. However, there was no corresponding increase in ozone formation in those counties. Therefore, the North Carolina Division of Air Quality (NCDAQ) is not required and does not believe it is appropriate to take further action at this time.

Based on the annual vehicle miles traveled (VMT) growth rate from the EAC SIP and the latest data from the North Carolina Department of Transportation (NCDOT), all of the EAC areas meet the maintenance plan requirements. The only county whose annual VMT growth rate for 2000-2004 is greater than 10% of the annual VMT growth rate for 2000-2007 used in the attainment demonstration is Guilford County (11.77% increase). The 2003-2005 8-hour ozone design value for the ambient monitor (McLeansville) in Guilford County is 0.077 ppm which is below the 0.080 ppm threshold. Furthermore, the design values for the McLeansville monitor have steadily decreased over the past five years. Therefore, Guilford County currently meets the EAC maintenance plan criteria.

### **Impact on Ozone Formation**

For the period evaluated, all of the EAC areas experienced decreases in ozone concentrations. Even though the meteorological conditions during the 2005 ozone season were more conducive to ozone formation, the EAC areas observed few exceedances. Most areas observed far fewer exceedances than in 2002 (which also had a warm and dry ozone season similar to the conditions experienced in 2005) and were generally below the average number of exceedance days for 1994-2005.

### **Conclusion**

Neither the stationary point source nor mobile source action triggers detailed in the maintenance plan section of the EAC State Implementation Plan (SIP) were met. Therefore, the NCDAQ is not required to take further action at this time.

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## **I. Background**

On December 17, 2004, the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Air Quality (NCDAQ), submitted to the United States Environmental Protection Agency (USEPA) North Carolina's 8-hour ozone national ambient air quality standard (NAAQS) attainment demonstration for regions designated as Early Action Compact (EAC) areas. The EAC areas in North Carolina include the Cumberland County EAC area; the Mountain EAC area (Buncombe, Haywood and Madison Counties); the Triad EAC area (Alamance, Caswell, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry and Yadkin Counties); and, the Unifour EAC area (Alexander, Burke, Caldwell, and Catawba Counties).

Early Action Compact areas were given the opportunity to develop local control strategies to meet the 8-hour ozone NAAQS earlier than required by the Clean Air Act. In turn, the USEPA agreed to defer the effective date of the nonattainment designation for these areas. If an EAC area attains the 8-hour ozone NAAQS by December 31, 2007 and meets all of their EAC milestones, the USEPA will designate the area as attainment. The Mountain EAC area in North Carolina was designated as attainment in April 2004; however, the three counties listed above decided to continue their EAC agreement because of the public health benefits of the program. The December 2004 attainment demonstration showed all of North Carolina's EAC areas meeting the 8-hour ozone NAAQS by December 31, 2007 and maintaining that standard through 2017. In fact, all areas are now attaining the 8-hour ozone NAAQS. The NCDAQ committed to annual tracking of stationary point and highway mobile sources emission inventories data to assess progress in meeting these attainment goals. This is the first annual tracking report submitted to meet that commitment.

## **II. Annual Tracking for Growth**

### *Stationary Point Source Emission Inventory Data Review*

In the December 2004 attainment demonstration submittal, NCDAQ committed to conduct an annual review of growth of stationary point sources by comparing the latest available annual stationary point source nitrogen oxides (NO<sub>x</sub>) emissions inventory to the 2000 base year NO<sub>x</sub> inventory used in the attainment demonstration air quality modeling analyses. For this report, the latest stationary point source inventory available is for 2003. NCDAQ committed to both a county-by-county comparison and a composite for the entire EAC area.

Tables 1 - 4 below show the total NO<sub>x</sub> emissions from all permitted stationary point sources (in tons per year) for 2000 and 2003. Only larger facilities with Title V permits are required to report emissions annually. Therefore, the NCDAQ "assumed" emissions for facilities that were not required to report in a specified year. Since these sources tend to be small and do not generally have significant emissions changes from year to year, the "assumed" emissions for these sources were based on data from the last year they were required to report. Facility-specific NO<sub>x</sub> emissions inventory data used to generate the following tables can be found in Appendix A (for calendar year 2000) and Appendix B (for calendar year 2003) of this report.

**Table 1: NOx Emissions from Permitted Stationary Sources  
Cumberland County EAC Area (tons/year)**

	2000	2003	Percent Change
<i>Cumberland County</i>	831.7	847.3	1.9%

**Table 2: NOx Emissions from Permitted Stationary Sources  
Mountain Area EAC Area (tons/year)**

	2000	2003	Percent Change
<i>Buncombe County</i>	6,931.4	5,389.1	(-) 22.3%
<i>Haywood County</i>	4,742.1	5,368	13.2%
<i>Madison County</i>	0	0	0%
<i>Total for Area</i>	11,673.5	10,757.1	(-) 7.9%

**Table 3: NOx Emissions from Permitted Stationary Sources  
Triad EAC Area (tons/year)**

	2000	2003	Percent Change
<i>Alamance County</i>	418.3	395.6	(-) 5.4%
<i>Caswell County</i>	8.3	0	(-) 100.0%
<i>Davidson County</i>	4,454.4	1,901.8	(-) 57.3%
<i>Davie County</i>	68.9	40.8	(-) 40.8%
<i>Forsyth County</i>	2493.7	2161.0	(-) 13.3%
<i>Guilford County</i>	657.5	554.9	(-) 15.6%
<i>Randolph County</i>	362	358.5	(-) 1.0%
<i>Rockingham County</i>	9,214.5	8,345.3	(-) 9.4%
<i>Stokes County</i>	32,513.1	26,874.4	(-) 17.3%
<i>Surry County</i>	475.5	426.1	(-) 10.4%
<i>Yadkin County</i>	0	2.9	Greater than 100%
<i>Total for Area</i>	50,666.2	41,061.3	(-) 19%

**Table 4: NOx Emissions from Permitted Stationary Sources  
Unifour EAC Area (tons/year)**

	2000	2003	Percent Change
<i>Alexander County</i>	19	16.5	(-)13.2%
<i>Burke County</i>	344.5	272.5	(-)20.9%
<i>Caldwell County</i>	473.3	478	1.0%
<i>Catawba County</i>	27,075	20,616.9	(-)23.9%
<i>Total for Area</i>	27,911.8	21,383.9	(-) 23.4%



North Carolina agreed to identify and implement additional controls on stationary sources sufficient to offset the growth in the stationary source NO<sub>x</sub> emissions if:

- actual stationary source NO<sub>x</sub> emissions are greater than 10 percent higher than those emissions used in the EAC State Implementation Plan (SIP) modeling analysis either for an individual county or for the entire EAC area, **and**
- there has also been a corresponding increase in ozone levels in the area such that the latest 3 year design value is greater than 0.080 ppm.

When looking at the EAC areas as a whole, the Cumberland County EAC area was the only area showing an increase in NO<sub>x</sub> emissions (1.9 %) for the time period evaluated. Based on the criteria above, this slight increase in emissions does not warrant further action by the NCDAQ.

Yadkin County and Haywood County both reported NO<sub>x</sub> emissions in 2003 greater than 10 percent higher than those emissions used in the 2000 EAC SIP modeling analysis. Yadkin County is in the Triad EAC area. The increase in NO<sub>x</sub> emissions in Yadkin County can be attributed to the fact that there were no NO<sub>x</sub> sources in Yadkin County in the 2000 base year. The 2.9 tons/year of NO<sub>x</sub> emissions reported in Yadkin County in 2003 represent only a very small portion of the total NO<sub>x</sub> emissions reported in the Triad EAC area. Therefore, NCDAQ does not believe further action is warranted to address this small emissions increase.

Haywood County is in the Mountain Area EAC area. Haywood County's stationary point source emissions growth (13.2% increase) was slightly higher than the action trigger criteria. The increase in NO<sub>x</sub> emissions in Haywood County can be attributed to one source, Blue Ridge Paper Products – Canton Mill. NCDAQ is currently evaluating Blue Ridge Paper Products to determine if they must install best available retrofit technology (BART) controls as part of North Carolina's strategy for meeting regional haze requirements to improve visibility. Even with this increase in stationary source NO<sub>x</sub> emissions in Haywood County, both the 1-hour and 8-hour ozone design value trends for the Mountain Area EAC area (1994-2005) have steadily decreased. Furthermore, North Carolina has recorded no exceedances of the 1-hour ozone NAAQS and only one exceedance of the 8-hour ozone NAAQS in the mountains in the past 3 years.

The air quality analysis in Section III of this report shows no corresponding increase in ozone levels in either Yadkin or Haywood Counties or in their corresponding EAC areas. Therefore, based on the criteria above, no further action is required by the NCDAQ at this time.

#### *Mobile Source Emission Inventory Data Review*

The NCDAQ also committed to conducting an annual review of growth in highway mobile sources. To meet the highway mobile EAC maintenance plan requirements:

- 2000-2004 annual Vehicle Miles Traveled (VMT) growth rate cannot exceed the 2000-2007 annual VMT growth rate by 10% for an individual county or the entire EAC area, **and**

- there cannot be a corresponding increase in ozone levels in the area such that the latest 3 year design value is greater than 0.080 ppm.

Table 5 below shows the comparison between the VMT from the EAC State Implementation Plan (SIP) and the VMT from the latest North Carolina Department of Transportation (NCDOT) data. Data used to generate Table 5, as well as further information on where this data was derived, can be found in Appendix C of this report.

**Table 5: Comparison Between the EAC SIP VMT and the latest NCDOT VMT Data**

	<b>Annual VMT Growth Rate from EAC SIP</b>	<b>Annual VMT Growth Rate from Latest NCDOT Data</b>	<b>% Change</b>
<b>Cumberland Co. EAC Area</b>			
Cumberland	1.66	0.96	-42.41
<b>Unifour EAC Area</b>			
Alexander	3.88	2.66	-31.42
Burke	2.01	0.58	-71.28
Caldwell	3.10	2.30	-25.77
Catawba	2.73	1.40	-48.74
<b>Total Area</b>	<b>2.67</b>	<b>1.42</b>	<b>-46.95</b>
<b>Mountain EAC Area</b>			
Buncombe	2.16	1.85	-14.15
Haywood	2.42	1.10	-54.67
Madison	2.29	1.78	-22.13
<b>Total Area</b>	<b>2.24</b>	<b>1.65</b>	<b>-26.25</b>
<b>Triad EAC Area</b>			
Alamance	2.29	0.58	-74.71
Caswell	2.40	-0.80	-133.34
Davidson	2.82	0.96	-66.14
Davie	2.51	1.76	-29.97
Forsyth	2.32	1.70	-26.59
Guilford	2.17	2.43	11.77
Randolph	2.87	0.68	-76.25
Rockingham	2.34	-0.26	-110.93
Stokes	2.20	1.65	-24.87
Surry	2.60	-0.14	-105.45
Yadkin	2.29	1.05	-54.42
<b>Total Area</b>	<b>2.38</b>	<b>1.32</b>	<b>-44.51</b>

All of the EAC areas as a whole showed lower VMT growth during the period analyzed compared to the VMT growth assumed in the EAC State Implementation Plan.

Guilford County, which is in the Triad EAC area, is the only individual county where the annual VMT growth rate for 2000-2004 is greater than 10% of the annual VMT growth rate for 2000-2007 (11.77 % increase). The VMT growth rate in Guilford County was dramatically impacted between 2003 and 2004 by two major road construction projects in the county. One impacting project was the widening of I-40/I-85 from 4 to 8 lanes and another was the construction of six additional lanes of the south to southeast section of the Greensboro Beltway Loop. The Triad area previously had two converging Interstates, I-40 and I-85, traveling through the central part of one of North Carolina's largest urban areas. In the last ten years, significant construction has been initiated to relieve congestion between Burlington and Winston-Salem, North Carolina. The I-85 bypass construction allowed traffic to be redirected (around the heart of Greensboro) and connect with the I-85 business much further south to southwest toward High Point and eventually Charlotte.

Table 6 below shows the 2003-2004 annual VMT growth rate per road type in Guilford County.

**Table 6: 2003-2004 Guilford County Annual VMT Growth Rate per Road Type**

		2003 DVMT	2004 DVMT	Annual Growth Rate
<b>Rural</b>	Interstate	684.28	736.18	<b>7.58</b>
	Principal Arterial	469.5	469.3	<b>-0.04</b>
	Minor Arterial	228.53	228.53	<b>0.00</b>
	Major Collector	550.86	538.2	<b>-2.30</b>
	Minor Collector	23.41	23.41	<b>0.00</b>
	Local	369.81	369	<b>-0.22</b>
	Total Rural	2326.39	2364.62	<b>1.64</b>
<b>Urban</b>	Interstate	2578.55	2808.75	<b>8.93</b>
	Freeway	1137.74	1871.26	<b>64.47</b>
	Principal Arterial	1602.44	1587.82	<b>-0.91</b>
	Minor Arterial	1978.33	1955.78	<b>-1.14</b>
	Collector	310.15	310.76	<b>0.20</b>
	Local	881.53	885.26	<b>0.42</b>
	Total Urban	8488.74	9419.63	<b>10.97</b>
	<b>Total Rural &amp; Urban</b>	<b>10815.13</b>	<b>11784.25</b>	<b>8.96</b>

As shown in Table 6, there was a 64.47% increase in VMT on urban freeways during the 2003-2004 timeframe that resulted in a total increase of 8.96% across all road types.

Traffic congestion has been an issue in Greensboro because of the converging of the I-40 and I-85 interstates. The completion of construction projects to help minimize this congestion are the primary reasons for the significant increase in VMT during 2003-2004. Now, with the equivalent of 10 additional lanes of capacity, this area has reduced congestion and delay. It should be noted that this additional lane capacity was included in the travel demand model VMT used in the attainment demonstration. The DAQ will continue to collaborate with the transportation planners in Guilford County to ensure VMT growth continues to stabilize through the Greensboro area.

### **III. Air Quality Analysis**

The NCDAQ is required to evaluate design value (DV) trends and ozone exceedance trends from 1994 to 2005 to determine if any of the EAC areas show increases in ozone formation. It should be noted, the 2005 ambient ozone data is currently being quality assured by NCDAQ staff and has not been officially submitted to the USEPA. Therefore, the 2005 values in the tables below may change.

Specifically, the NCDAQ evaluated the following data as part of the air quality analyses:

- 1-Hour Ozone Design Value Trends – Most recent 1-hour ozone design values compared to the trend in 1-hour ozone design values from the 1994-1996 timeframe to present.
- 8-hour Ozone Design Value Trends – Most recent design values (3 year average of the 4th highest 8-hour ozone average), compared to the trend in design values from the 1994-1996 timeframe to present.
- 1-Hour Ozone Exceedances – Number of exceedances of the 1-hour ozone standard at each monitor in the EAC areas for the most recent ozone season, compared to the number of exceedances at each monitor from 1994 to present.
- 8-Hour Ozone Exceedances – Number of exceedances of the 8-hour ozone standard at each monitor in the EAC areas for the most recent ozone season, compared to the number of exceedances at each monitor from 1994 to present.
- 4th Highest Value Trends – 4th Highest 1-hour ozone value compared to the 4th highest 1-hour ozone value from 1994 to present.

A summary of this analysis is provided below. A description of weather patterns and climatology for the 2005 ozone season is also included.

#### *1-hour Design Value Trends*

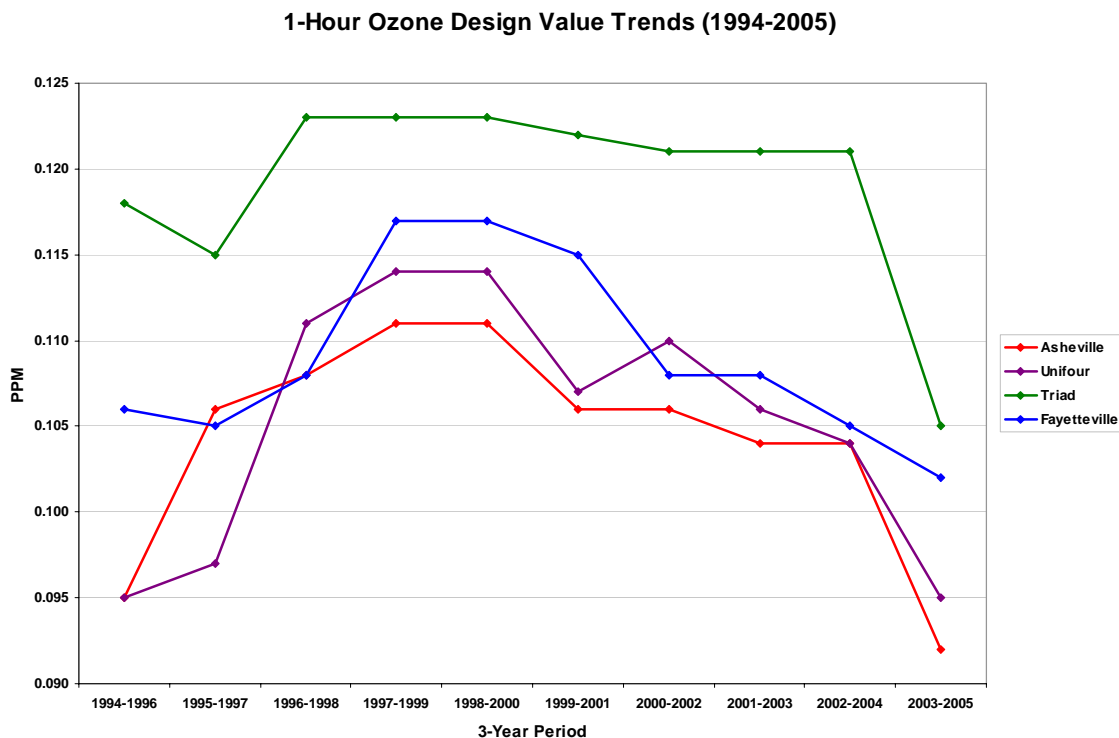
Across all EAC areas, 1-hour ozone design values peaked during the 1997-1999 and 1998-2000 periods (see Table 7 below). Since this period, design values have steadily declined and have remained below the 0.124 ppm ozone NAAQS.

Region	Monitoring Sites	AIRS ID	1-hour Design Value Summary (ppm)									
			94-96	95-97	96-98	97-99	98-00	99-01	00-02	01-03	02-04	03-05
Asheville	Bent Creek	37-021-0030	0.085	0.086	0.108	0.111	0.111	0.106	0.106	0.103	0.103	0.092
	Frying Pan	37-087-0035	0.095	0.095	0.106	0.107	0.107	0.104	0.098	0.098	0.098	0.091
	Purchase Knob	37-087-0036	0.094	0.106	0.103	0.105	0.103	0.102	0.104	0.104	0.104	0.091
	Waynesville	37-087-0004				0.090	0.094	0.094	0.095	0.091	0.091	0.084
Unifour (Hickory)	Taylorsville (Waggin Trail)	37-003-0004	0.094	0.094	0.110	0.110	0.111	0.106	0.110	0.106	0.104	0.095
	Lenoir / Caldwell Co.	37-027-0003	0.095	0.097	0.111	0.114	0.114	0.107	0.099	0.105	0.098	0.094
Triad	Cooleemee	37-069-0002	0.103	0.105	0.113	0.123	0.123	0.122	0.118	0.119	0.116	0.105
	Hattie Ave.	37-067-0022	0.108	0.115	0.115	0.117	0.113	0.112	0.116	0.116	0.116	0.102
	Union Cross	37-067-1008	0.109	0.115	0.120	0.119	0.118	0.110	0.110	0.109	0.108	0.097
	Shiloh Church	37-067-0028	0.118	0.110	0.112	0.112	0.112	0.113	0.115	0.115	0.113	0.088
	Cherry Grove	37-033-0001	0.109	0.111	0.118	0.118	0.119	0.112	0.119	0.114	0.112	0.099
	McLeansville	37-081-0011	0.111	0.109	0.112	0.112	0.115	0.112	0.121	0.121	0.121	0.103
	Mendenhall	37-081-0013										
	Bethany	37-157-0099	0.111	0.113	0.123	0.112	0.112	0.105	0.109	0.109	0.109	0.092
	Sophia	37-151-0004						0.102	0.104	0.104	0.104	0.095
	Pollirosa	37-067-0027	0.096	0.096	0.107	0.111	0.111	0.107	0.107	0.107	0.103	0.086
	Clemmons	37-067-0030										
Fayetteville	Wade	37-051-0008	0.100	0.100	0.108	0.117	0.117	0.115	0.108	0.108	0.105	0.096
	Golfview (Hope Mills)	37-051-1003	0.106	0.105	0.108	0.109	0.109	0.106	0.106	0.105	0.105	0.102

Light Shading = No Data Available Underline = Fewer Than Three Years Or Previous Site Data In DV Calculation

**Table 7: 1-hour design values for each monitor in the EAC areas in North Carolina. Design values are presented in parts per million (ppm), with design values exceeding the standard highlighted in orange. Light shading indicates that no data was available while an underlined value indicates fewer than three years or previous site data was used in the DV calculation.**

Figure 1 below shows the trend in 1-hour DVs for the different EAC areas. The graph shows the peak in the 1997-1999 and 1998-2000 design values in the Asheville, Unifour, and Fayetteville areas. After this period in the late 1990s, the design values for the areas decrease consistently. The Triad area is the exception in the 1-hour values and follows a different trend. After the 1996-1998 DV period, values roughly plateau until a significant drop is seen in the 2003-2005 DV period.



**Figure 1: The graph displays the trend in the area-wide 1-hour design values (in parts per million) for each EAC area from 1994 to 2005.**

### 8-hour Design Value Trends

Much like the 1-hour values, 8-hour design values peaked in 1997-1999 and 1998-2000, with a steady decline in DVs in following years (see Figure 2 below). For the 2002-2004 DVs, only the Triad EAC area had a DV in excess of 0.085 ppm. As for the 2003-2005 DVs, all EAC areas had DVs of 0.082 ppm or less.

Figure 2 below shows the trend in 8-hour DVs for the different EAC areas. The graph shows the peak in the 1997-1999 and 1998-2000 design values, as seen in Table 8 below. Design values decrease through the rest of the graph, with the exception of Unifour, which show a slight increase in the 2000-2003 DVs. All areas do drop below the 8-hour standard by the 2003-2005 period.

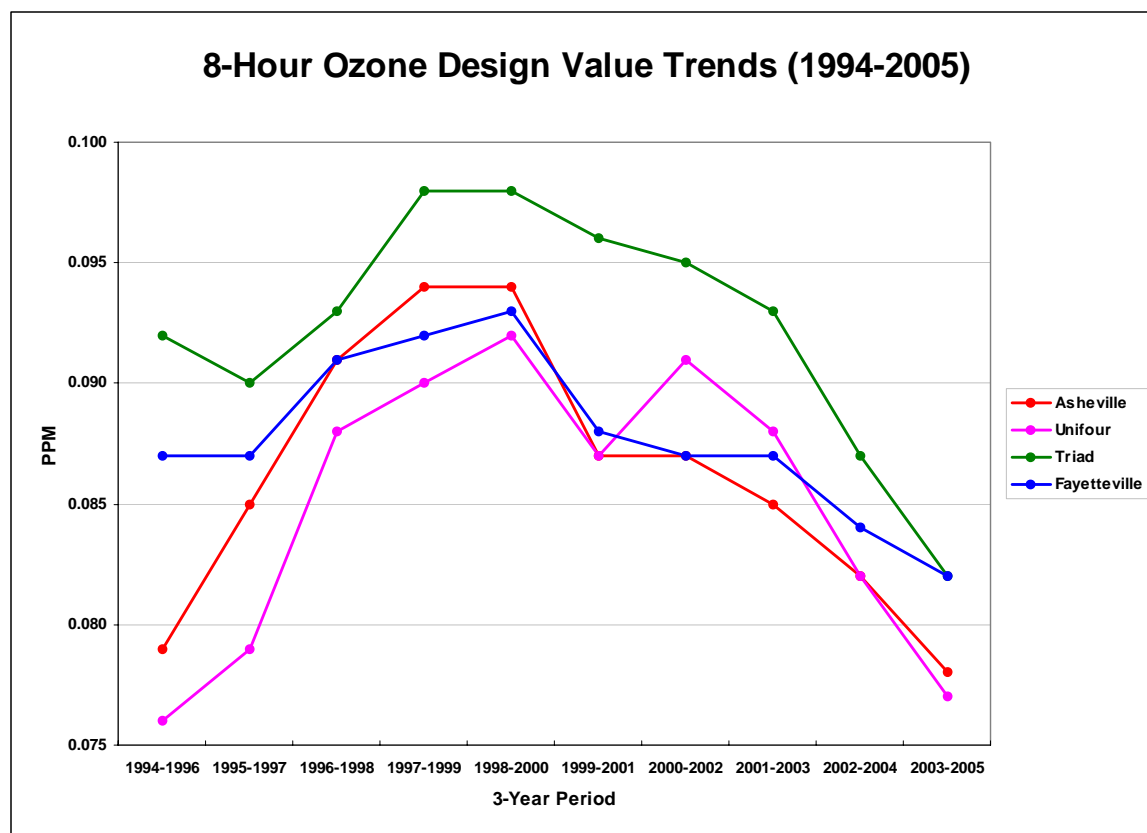


Figure 2: The graph displays the trend in the area-wide 8-hour design values (in parts per million) for each EAC area from 1994 to 2005.

Region	Monitoring Sites	AIRS ID	8-Hour Design Value Summary (ppm)									
			94-96	95-97	96-98	97-99	98-00	99-01	00-02	01-03	02-04	03-05
Asheville	Bent Creek	37-021-0030	0.073	0.075	0.079	0.083	0.088	0.083	0.085	0.078	0.077	0.074
	Frying Pan	37-087-0035	0.079	0.085	0.091	0.094	0.094	0.087	0.085	0.082	0.080	0.075
	Purchase Knob	37-087-0036		0.083	0.085	0.090	0.090	0.087	0.087	0.085	0.082	0.078
	Waynesville	37-087-0004						0.080	0.080	0.079	0.076	0.073
Unifour (Hickory)	Waggin Trail	37-003-0004	0.076	0.079	0.084	0.086	0.089	0.087	0.091	0.088	0.082	0.077
	Lenoir / Caldwell Co.	37-027-0003		0.079	0.088	0.090	0.092	0.087	0.086	0.084	0.080	0.074
Triad	Cooleemee	37-059-0002			0.092	0.098	0.098	0.096	0.095	0.093	0.086	0.082
	Hattie Ave.	37-067-0022	0.083	0.087	0.091	0.097	0.096	0.094	0.094	0.093	0.087	0.079
	Union Cross	37-067-1008	0.088	0.089	0.092	0.094	0.093	0.093	0.092	0.089	0.084	0.079
	Shiloh Church	37-067-0028			0.087	0.086	0.088	0.089	0.092	0.088	0.079	0.074
	Cherry Grove	37-033-0001	0.085	0.089	0.093	0.094	0.093	0.090	0.091	0.088	0.084	0.077
	McLeansville	37-081-0011	0.086	0.085	0.088	0.092	0.094	0.090	0.093	0.089	0.084	0.077
	Mendenhall	37-081-0013										
	Bethany	37-157-0099	0.092	0.090	0.089	0.085	0.083	0.085	0.090	0.091	0.084	0.078
	Sophia	37-151-0004								0.085	0.082	
	Pollirosa	37-067-0027	0.078	0.081	0.084	0.084	0.083	0.082	0.084	0.082	0.079	
	Clemmons	37-067-0030										
Fayetteville	Wade	37-051-0008	0.083	0.084	0.088	0.092	0.093	0.088	0.086	0.086	0.084	0.080
	Golfview (Hope Mills)	37-051-1003	0.087	0.087	0.091	0.092	0.091	0.086	0.087	0.087	0.084	0.082

Light Shading = No Data Available Underline = Fewer Than Three Years Or Previous Site Data In DV Calculation

**Table 8: 8-hour design values for each monitor in the EAC areas in North Carolina. Design values are presented in parts per million (ppm), with design values exceeding the standard highlighted in orange. Light shading indicates that no data was available while an underlined value indicates fewer than three years or previous site data was used in the DV calculation.**

### 1-hour & 8-Hour Ozone Exceedance Trends

The number of 1-hour ozone exceedance peaked during the 1998 season, in which nine exceedances were observed in the EAC areas. Since 1998, exceedances of the 1-hour standard have decreased dramatically; as there have been no exceedances in the last 3 years in any EAC area (see Table 9 below).

Region	Monitoring Sites	AIRS ID	Number Of 1-Hour Exceedances Per Year											
			1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Asheville	Bent Creek	37-021-0030	0	0	0	0	1	0	0	0	0	0	0	0
	Frying Pan	37-087-0035	0	0	0	0	0	0	0	0	0	0	0	0
	Purchase Knob	37-087-0036		0	0	0	0	0	0	0	0	0	0	0
	Waynesville	37-087-0004						0	0	0	0	0	0	0
Unifour (Hickory)	Taylorsville (Waggin T	37-003-0003	0		0	0	2	0	0	0	0	0	0	0
	Lenoir / Caldwell Co.	37-027-0003		0		0	0	0	0	0	0	0	0	0
Triad	Cooleemee	37-059-0002			0	0	1	2	0	1	0	0	0	0
	Hattie Ave.	37-067-0022	0	1	0	0	1	1	0	0	0	0	0	0
	Union Cross	37-067-1008	0	0	0	0	1	0	0	1	0	0	0	0
	Shiloh Church	37-067-0028			1	0	1	1	0	0	0	0	0	0
	Cherry Grove	37-033-0001	0	0	0	0	0	0	0	0	0	0	0	0
	McLeansville	37-081-0011	0	0	1	0	0	0	0	2	0	0	0	0
	Bethany	37-157-0099	0	0	0	0	1	0	0	0	2	0	0	0
	Sophia	37-151-0004								0	0	0	0	
	Pollirosa	37-067-0027	0	0	0	0	1	0	0	0	0	0	0	0
Fayetteville	Wade	37-051-0008	0	0	0	0	0	0	0	0	0	0	0	0
	Golfview (Hope Mills)	37-051-1003	0	0	0	0	0	0	0	0	0	0	0	0
Light Shading = No Data Available														

Light Shading = No Data Available

**Table 9: The table shows the number of exceedances of the 1-hour standard at each monitoring site within an EAC area. Light shading indicates that no data was available for the period.**

The number of 8-hour ozone exceedances has shown a downward trend since peaking in 1998 and 1999 for all EAC areas. In the mountains, there has been only one exceedance in the past 3 years. In the Unifour region, there have been no exceedances in the past 2 years, and in 2003, the maximum number of exceedances at any monitor was three. In the Triad in 2003, the Hattie



Avenue monitor had five exceedances, and the Cooleemee monitor had four exceedances, with less than four exceedances elsewhere in the Triad. In both 2004 and 2005, no monitor has had more than three exceedances. In the Fayetteville region, the maximum number of exceedances at a monitor in 2003 was four. In 2004, no exceedances were recorded. In 2005, the maximum number of ozone exceedances at any monitor rose to six (see Table 10 below).

Region	Monitoring Sites	AIRS ID	Number Of 8-Hour Exceedances Per Year											
			1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mountains	Bent Creek	37-021-0030	0	0	0	0	5	2	7	1	7	0	0	1
	Frying Pan	37-087-0035	0	5	5	4	23	24	4	1	13	0	0	0
	Purchase Knob	37-087-0036		4	1	7	12	19	5	0	18	0	0	0
	Waynesville	37-087-0004						1	3	0	2	0	0	0
Unifour (Hickory)	Taylorsville	37-003-0003	1		0	3	15	2	7	5	17	1	0	0
	Lenoir	37-027-0003		1		1	10	18	4	2	10	3	0	0
Triad	Cooleemee	37-059-0002			3	11	18	24	17	11	22	4	0	3
	Hattie Ave.	37-067-0022	2	8	3	9	15	16	6	10	15	5	0	0
	Union Cross	37-067-1008	4	4	5	12	18	11	9	8	15	3	0	0
	Shiloh Church	37-067-0028			4	1	9	6	5	10	8	0	0	0
	Cherry Grove	37-033-0001	3	4	7	17	19	7	9	6	15	3	0	0
	McLeansville	37-081-0011	5	5	3	3	18	18	8	4	20	2	0	3
	Bethany	37-157-0099	8	0	6	11	5	2	3	9	15	3	0	0
	Sophia	37-151-0004								7	10	2	1	
	Pollirosa	37-067-0027	1	1	3	1	6	3	1	2	6	0	0	0
Fayetteville	Wade	37-051-0008	3	3	4	5	13	17	4	2	17	4	0	3
	Golfview	37-051-1003	4	4	9	4	24	14	3	3	14	3	0	6
Light Shading = No Data Available      Orange - 4 Or More Exceedances														

Light Shading = No Data Available Orange - 4 Or More Exceedances

**Table 10: The table shows the number of exceedances of the 1-hour standard at each monitoring site with in an EAC area. Light shading indicates that no data was available for the period. Orange highlighting indicates a monitor with four or more exceedances for that year.**

### 2005 Ozone Season Weather Patterns

The conditions during the 2005 ozone season were more conducive to ozone formation than the past two seasons. After a cool and wet ozone season in 2004, 2005 had near normal to above normal temperatures and below normal levels of precipitation. Over the past decade, ozone seasons which were warmer and drier than normal generally had more frequent exceedances of the NAAQS.

While the warmer and drier conditions would be conducive to ozone formation, there were periods when the winds became less favorable. Toward the middle of the season, there were a few periods when the wind would take on a more northeasterly component instead of North Carolina's normal summertime wind flow which is predominately from the southwest.

Even though the meteorological conditions during the 2005 ozone season were more conducive to ozone formation, the EAC areas observed few exceedances. Most areas observed far fewer exceedances than in 2002 (which also had a warm and dry ozone season similar to the conditions experienced in 2005) and were generally below the average number of exceedance days for 1994-2005.



#### **IV. Overall Summary and Conclusions**

The annual review of stationary point source emissions shows North Carolina EAC areas generally experienced decreases in NO<sub>x</sub> emissions for the period evaluated. The Cumberland County EAC area was the only area experiencing an increase in NO<sub>x</sub> emissions (1.9%); however, this increase was well below the action trigger. Two individual counties within EAC areas, Haywood County and Yadkin County, reported NO<sub>x</sub> emissions from stationary point sources at levels high enough to meet one of two action triggers. However, there was no corresponding increase in ozone formation in those counties. Therefore, the NCDAQ is not required and does not believe it is appropriate to take further action at this time.

Based on the annual VMT growth rate from the EAC SIP and the latest NCDOT VMT data, all of the EAC areas meet the maintenance plan requirements. The only individual county whose annual VMT growth rate for 2000-2004 is greater than 10% of the annual VMT growth rate for 2000-2007 used in the attainment demonstration is Guilford County (11.77% increase). This increase can be attributed to the completion of the I-85/I-40 widening project in 2003-2004. The NCDAQ will continue to collaborate with the transportation planners in Guilford County to ensure the VMT through the Greensboro area continues to stabilize. The 2003-2005 8-hour ozone design value for the ambient monitor (McLeansville) in Guilford County is 0.077 ppm which is below the 0.080 ppm threshold. Furthermore, the design values for the McLeansville monitor have steadily decreased over the past five years. Therefore, Guilford County currently meets the EAC maintenance plan criteria.

Since no corresponding increases in ozone were recorded in any of the EAC areas for the period evaluated and since neither the stationary point source nor mobile source action triggers detailed in the EAC SIP were met, the NCDAQ is not required to take further action at this time.

# Appendix A

## Facility-Specific NO<sub>x</sub> Emissions Inventory Data Calendar Year 2000

Note 1: The tables that follow are in **alphabetical order by county name**

Note 2: The following data are emissions from permitted point sources only, as reported by the facility to the North Carolina Department of Environment and Natural Resources, Division of Air Quality (NCDAQ) and reviewed by NCDAQ staff during the calendar year following the year emitted. With the exception of 1999, when all permitted facilities were required to report their NO<sub>x</sub> emissions, only larger facilities with Title V permits are required to report emissions annually. Therefore, the tables that follow show actual reported emissions for the selected year as well as “assumed” emissions for facilities that were not required to report in that year. The “assumed” emissions were taken from the latest year the source was required to report NO<sub>x</sub> emissions (year reported is in parentheses).

**Table A1: Facilities in Alamance County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
A.O. Smith Corporation	3.5 Tons	
Braxton Sawmill, Inc.	3.7 Tons	
Cherokee Sanford Group, LLC ** INACTIVE **	11.2 Tons	
Stericycle, Inc.	24.5 Tons	
A.M.P. Division of Central Paving Company, Inc.	25 Tons	
National Spinning Co., Inc. - Alamance Co. Dyeing Operation	27 Tons	
New South Inc	33.6 Tons	
Carolina Finishing of North Carolina LLC - Elmira Street	49.8 Tons	
Burlington Industries LLC -BHF & Pioneer Plant	64.4 Tons	
Nello L. Teer Company	86.8 Tons	
Flynt Fabrics Inc ** INACTIVE **		0 Tons (1999)
City of Burlington - South Burlington WWTP		0.1 Tons (2003)
City of Graham Wastewater Treatment Plant		0.2 Tons (2003)
Cone Mills Corp - Granite Plant ** INACTIVE **		0.3 Tons (1999)
Kayser-Roth Corporation - Ladies Finishing ** INACTIVE **		0.4 Tons (1999)
City of Burlington - East Burlington WWTP		0.6 Tons (2002)
Glen Raven Mills Glen Touch Division ** INACTIVE **		1 Ton (1999)
Carolina Finishing of North Carolina, LLC ** INACTIVE **		1 Ton (1999)
Tower Mills Inc. ** INACTIVE **		1 Ton (1999)
Burlington Chemical Company Inc		1 Ton (1999)
NovaFlex Hose Inc.		1.1 Ton (2003)
Walter Kidde Portable Equipment Inc		1.7 Tons (1999)
Honda Power Equip **Inactive**		2 Tons (1999)
Luxfer Gas Cylinders		2 Tons (1999)
Burlington Industries, LLC - Pioneer Plant ** INACTIVE **		3 Tons (1999)
Glen Raven Technical Fabrics, LLC		3 Tons (1999)
Cortina Fabrics, Inc.		3.2 Tons (2002)
Culp Weaving Inc		3.6 Tons (1999)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #8		3.9 Tons (1999)
Craftique LLC		4 Tons (1999)
Texfi Industries Inc Haw River Dyeing ** INACTIVE **		4 Tons (1999)
GKN Driveline - Alamance Facility		4.1 Tons (2002)
Kayser-Roth Corporation - Mens Finishing		4.4 Tons (1999)
Culp, Inc. -Upholstery Prints Division		5 Tons (1999)
Alamance Regional Medical Center, Inc.		5 Tons (1999)
Riley Paving, Inc.		6 Tons (1999)
Culp, Inc. - Culp Finishing		6.9 Tons (2003)
Alexander Fabrics, LLLP		7.2 Tons (2003)
Copland Industries, Inc.		13.1 Tons (2002)
<b>Total Reported Emissions</b>	<b>329.5</b>	
<b>Total Assumed Emissions</b>		<b>88.8</b>
<b>Grand Total</b>		<b>418.3</b>

**Table A2: Facilities in Alexander County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Shurtape Technologies Inc	0.4 Tons	
Mitchell Gold	0.5 Tons	
Century Furniture Industries Plant #9	3 Tons	
Daniels Woodcarving Company, Inc.		0 Tons (2002)
Piedmont Wood Products		0 Tons (2004)
Nu-Mode Manufacturing Company		0 Tons (2002)
Vintage Editions, Inc.		0.1 Tons (2002)
Clayton Marcus Plant No. 1		0.3 Tons (1999)
Hancock & Moore Plt 2		4 Tons (1999)
Brushy Mountain Enterprises		4.5 Tons (2002)
Schneider Mills Inc		6.2 Tons (1999)
<b>Total Reported Emissions</b>	<b>3.9</b>	
<b>Total Assumed Emissions</b>		<b>15.1</b>
<b>Grand Total</b>		<b>19.0</b>

**Table A3: Facilities in Buncombe County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Anvil Knitwear, Inc.		12.89 Tons (1999)
APAC Enka Plant		4.3 Tons (1999)
APAC Grove Stone		2.5 Tons (1999)
APAC Weatherville		4.3 Tons (1999)
Asheville Metal Finishing		0.4 Tons (1999)
Asheville MICA		0.41 Tons (1999)
Asheville Mortuary		0.1375 Tons (1999)
Asheville Water Authority		1.99 Tons (1999)
BASF	833.00 Tons	
Beacon		9.37 Tons (1999)
Buncombe Co. Landfill		2.7 Tons (1999)
Bussman Corp.		0.33 Tons (1999)
Carolina Power and Light	5909.00 Tons	
Colbond, Inc.		6.33 Tons (1999)
Cremation Services		0.01 Tons (1999)
Day International	8.73 Tons	
Diagnostic Lab		0.1685 Tons (1999)
Dodge Rockwell		0.0451 Tons (1999)
Drexel Heritage		17.10 Tons (1999)
Eaton Cutler-Hammer		0.86 Tons (1999)
Ethan Allen		3.8 Tons (1999)
Girmes		0.84 Tons (1999)
International Aggreg.		0.96 Tons (1999)
Kearfott		0.19 Tons (1999)
Lustar		19.4 Tons (1999)
Mission St. Joe Hospital		11.36 Tons (1999)
Metromont Materials		1.15 Tons (1999)

**Table A3: Facilities in Buncombe County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Milkco		1.7 Tons (1999)
Morris Funeral Home		0.086 Tons (1999)
MSD		37.22 Tons (1999)
Norfolk Southern		0.01 Tons (1999)
Owen Manufacturing		9.8 Tons (1999)
PPPi	3.79 Tons	
Square D Company		3.09 Tons (1999)
Thantex Specialty Inc.		0.092 Tons (1999)
Tultex Corporation		17.061 Tons (1999)
VA Medical Center		4.33 Tons (1999)
Volvo Construction		1.99 Tons (1999)
<b>Total Reported Emissions</b>	<b>6754.52</b>	
<b>Total Assumed Emissions</b>		<b>176.9201</b>
<b>Grand Total</b>	<b>6931.4401</b>	

**Table A4: Facilities in Burke County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
SpartaCraft Inc	0 Tons	
Lexington Furniture Plant 10	0.3 Tons	
Kohler Co., DBA Baker Furniture	2 Tons	
Molded Fiberglass Co/North Carolina	2.6 Tons	
Leviton - Southern Devices Div	5 Tons	
Borden Chemical Inc	7.5 Tons	
Burke Mills Inc	8.2 Tons	
Drexel Heritage Furnishings, Inc. - Plant 43	15.4 Tons	
Drexel Heritage Furn Industries Inc - Furn Pl ** INACTIVE **	18.7 Tons	
Henredon Furniture Industries, Inc.	32.8 Tons	
Drexel Herit Furn Plt 3-5 ** INACTIVE **	34 Tons	
Valdese Manufacturing Company	41.4 Tons	
SGL Carbon LLC	50.8 Tons	
RMC Mid-Atlantic, dba RMC Metromont Materials - Morganton		0 Tons (2002)
Drexel Herit Furn Plt 33		0 Tons (1999)
Robert Bergelin Company		0 Tons (2002)
E J Victor Upholstery Division		0.1 Tons (2003)
Ferguson Copeland, LLC d/b/a Ferguson Copeland Ltd Reep Driv		0.2 Tons (1999)
Synthron Inc		0.3 Tons (2002)
Drexel Heritage Plant No 71 ** INACTIVE **		0.4 Tons (1999)
Basf Corp		0.9 Tons (2003)
Packaging Corporation Of America		1 Ton (2002)
Boggs HMA, LLC - Plant 5		1 Ton (1999)
Valdese Textiles Inc		1 Ton (2002)
NC School for the Deaf		1.1 Tons (1999)
NC DOC Western Youth Institution		1.5 Tons (1999)

**Table A4: Facilities in Burke County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Burke Grading & Paving Inc - East Burke Asphalt		2 Tons (1999)
Rexnord Corporation ** INACTIVE **		2 Tons (1999)
Summitville Carolina Inc ** INACTIVE **		3 Tons (1999)
Case Farms of NC, Inc. - Rand St.		3.2 Tons (1999)
WNC Dry Kiln, Inc		4 Tons (1999)
Earthgrains Baking Companies Inc		4.1 Tons (2004)
Drexel Heritage Furniture Industries, Inc. Plt. 60		5.6 Tons (2003)
Valdese Weavers Inc Plant #1		5.8 Tons (1999)
Alba-Waldensian P&W Plt ** INACTIVE **		6.3 Tons (1999)
VNC Fabrics Inc ** INACTIVE **		7.8 Tons (1999)
Drexel Herit Furn Plt 6		8.7 Tons (1999)
Hickory Hill Furniture Corp		10.3 Tons (1999)
W M Cramer Lumber Co		10.7 Tons (2003)
APAC-Atlantic, Inc. - Morganton Plant		11.3 Tons (1999)
Broughton Hospital		15.6 Tons (2003)
Carolina Mills Plt 9		18 Tons (2003)
<b>Total Reported Emissions</b>	<b>218.7</b>	
<b>Total Assumed Emissions</b>		<b>125.89</b>
<b>Grand Total</b>		<b>344.5</b>

**Table A5: Facilities in Caldwell County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Shurtape Technologies Inc - Plt No 24	0.6 Tons	
Sealed Air Corp	0.7 Tons	
Pactiv Corporation	2 Tons	
NEPTCO Inc	3.6 Tons	
Meridian Automotive Systems Inc	4 Tons	
Broyhill Miller Hill Complex	4.1 Tons	
Hammary Furniture Company Plant 14 ** INACTIVE **	8.4 Tons	
Fairfield Chair Plt 2	10.5 Tons	
Kincaid Furn Plt 8 ** INACTIVE **	10.6 Tons	
Kincaid Furniture Company Plant No 5 ** INACTIVE **	12.7 Tons	
Broyhill Harper Furniture Co	18.2 Tons	
Bernhardt Furn Plts 2 and 5	22.8 Tons	
Broyhill Virginia Street Complex	25.9 Tons	
Thomasville Furniture Industries Inc - Lenoir Plt	31.7 Tons	
Bernhardt Furn Plts 1 3 & 7	46.2 Tons	
Kincaid Furn Plt 1	50 Tons	
Trigen Biopower Inc - Lenoir	143 Tons	
J & M Woodworking Plt 2		0 Tons (2002)
McCreary Modern Inc - Frame Plant		0 Tons (2002)
ECMD Inc dba Crown Heritage		0.1 Tons (1999)
Schwarz & Schwarz Inc		0.2 Tons (1999)
M & S Warehouse Inc		0.4 Tons (2003)
Lenoir Mirror Plnts 1 & 3		0.7 Tons (1999)

**Table A5: Facilities in Caldwell County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Midstate Contractors Inc		2 Tons (1999)
Paxar Corporation - Printed Label Group		4.3 Tons (1999)
Omni Supply Inc		5 Tons (1999)
Martin Marietta Materials Inc		5.7 Tons (2003)
Mat NuWood LLC		5.7 Tons (1999)
Sealed Air Corp - Hudson		6.3 Tons (2002)
Fairfield Chair Plt 1		7.8 Tons (1999)
Granite Hardwoods Inc		9 Tons (1999)
Shuford Mills Inc Hudson Cloth		14.1 Tons (1996)
Associated Hardwood Products, Inc.		17 Tons (1999)
<b>Total Reported Emissions</b>	<b>395.0</b>	
<b>Total Assumed Emissions</b>		<b>78.3</b>
<b>Grand Total</b>		<b>473.3</b>

**Table A6: Facilities in Caswell County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
International Aggregate, Inc.	6 Tons	
APAC		2.3 Tons (1999)
<b>Total Reported Emissions</b>	<b>6.0</b>	
<b>Total Assumed Emissions</b>		<b>2.3</b>
<b>Grand Total</b>		<b>8.3</b>

**Table A7: Facilities in Catawba County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Null Industries Inc ** INACTIVE **	0 Tons	
Carolina Glove Company, Plant #8	0.2 Tons	
Century Furniture Industries, Plt 40 Technical Center	0.2 Tons	
Laneventure, Plant No. 14	0.2 Tons	
Hickory Springs Manufacturing - Conover Complex	0.3 Tons	
Lackawanna Leather Co **Inactive**	0.6 Tons	
Meridian Automotive Systems, Inc. -Newton Operations	0.6 Tons	
Progressive Furniture Inc	0.9 Tons	
Carpenter Company Conover	1.5 Tons	
Ethan Allen Operations, Inc. Maiden Division	1.6 Tons	
Synthetics Finishing Hickory	1.7 Tons	
Synthetics Finishing Longview	2.6 Tons	
Commscope Inc Catawba Plant	3.3 Tons	
Hickory Springs Manufacturing Company	4.4 Tons	
Spectrum Textured Yarns Inc-Hickory Plant ** INACTIVE **	5 Tons	
Broyhill Furniture Newton Plant ** INACTIVE **	6.5 Tons	
HB Mellott Estate Inc., Maiden Plant	7.9 Tons	
Hooker Furniture Corporation ** INACTIVE **	8.2 Tons	
Broyhill Furniture Conover Plant ** INACTIVE **	10.3 Tons	
Shurtape Technologies - Hickory/Highland Plt	10.4 Tons	

**Table A7: Facilities in Catawba County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Blackburn Sanitary Landfill	10.5 Tons	
Southern Furn Co of Conover Catawba Plt	11.2 Tons	
Hickory Chair Company, Plant 7	11.3 Tons	
HWS Company Inc. dba Hickory White	19.1 Tons	
Hickory Chair Company Plant #20 ** INACTIVE **	19.2 Tons	
Century Furniture Industries Plant #1	19.3 Tons	
Claremont NA Cable, LLC	132.5 Tons	
Duke Energy Corporation - Marshall Steam Station	26,670 Tons	
Carolina House Furniture Inc		0 Tons (2002)
Ramsey's Finishing, Inc.		0 Tons (2003)
Thomasville Furniture Industries, Inc., Upholstery Plant 5		0 Tons (2002)
Commscope**inactive**		0 Tons (1999)
Carolina Solvents, Inc.		0.1 Tons (2002)
Cranford Woodcarving Finishing Plant No 3		0.1 Tons (2003)
Alcatel Cable Manuf Plt**inactive**		0.1 Tons (1999)
Vanguard Furniture Company, Inc., Plant No. 2		0.2 Tons (1999)
Synthetics Finishing Conover		0.2 Tons (2002)
Sherrill Furniture Company, Inc., CTH-Sherrill Occasional		0.3 Tons (2003)
Unifour Finishers, Inc., Division I		0.4 Tons (2002)
Appalachian Hardwood Flooring		0.4 Tons (2002)
Unifour Finishers, Inc., Division II		0.4 Tons (2002)
Special Metals Welding Products Company		0.5 Tons (2002)
Karolina Polymers, Inc. ** INACTIVE **		0.6 Tons (2002)
City of Hickory, Henry Fork WWTP ** INACTIVE **		0.6 Tons (2002)
City of Newton - Casa Christina Site		0.8 Tons (2003)
Jackson Lea ** INACTIVE **		1 Ton (1999)
GKN Sinter Metals, Inc.		1 Ton (1999)
Combeau Industries **Exempt**		1 Ton (1999)
Chelsea House-Port Royal Inc		1 Ton (1999)
Newton Sanitary Landfill		1 Ton (2002)
Joan Fabrics Corporation-Newton		1.1 Tons (2003)
Midstate Contractors, Inc.		1.4 Tons (2003)
Commscope Network Cable Division		1.6 Tons (2003)
Weyerhaeuser Company - Newton		2 Tons (1999)
Carolina Paving of Hickory Inc		2 Tons (1999)
Thomasville Furniture Industries, Inc., Upholstery Plant 9		2 Tons (1999)
Conover Lumber Co Inc		2 Tons (1999)
Midstate Mills Inc		2 Tons (1999)
Carolina Container Corporation		2.1 Tons (1999)
Frye Regional Medical Center		2.5 Tons (2003)
Tradewinds International, Inc.		2.7 Tons (2002)
Classic Leather Inc		2.9 Tons (1999)
Technibilt Ltd **Inactive**		3 Tons (1999)
City of Newton - Sarstedt Site		3.1 Tons (2003)



**Table A7: Facilities in Catawba County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Bassett Upholstery Division		3.3 Tons (1999)
Southern Furniture Company of Conover, Inc., Plant No. 2		3.3 Tons (1999)
City of Newton Inno - Therm Products Site		3.4 Tons (2003)
City of Newton - Polymask Corp Site		3.5 Tons (2003)
City of Newton - Moretz Inc. Site		3.6 Tons (2003)
Inno-Therm Products LLC		3.6 Tons (2003)
Terra-Mulch Products, LLC		4.8 Tons (1999)
City of Newton, Clark Creek Wastewater Treatment Plant		6 Tons (1999)
C Nelson Sigmon Paving Inc		6 Tons (1999)
Southern Furn Co of Conover #1		10.1 Tons (1999)
APAC-Atlantic, Inc. - Hickory Plant		10.8 Tons (2002)
Delta Apparel, Inc.		17 Tons (1999)
<b>Total Reported Emissions</b>	<b>26,959.5</b>	
<b>Total Assumed Emissions</b>		<b>115.49</b>
<b>Grand Total</b>		<b>27,075.0</b>

**Table A8: Facilities in Cumberland County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Black & Decker (US) Inc.	0.9 Tons	
Purolator Products Inc	7.2 Tons	
Dupont Teijin Films	10.1 Tons	
DAK Resins Cedar Creek Site	10.6 Tons	
Carolina By-Products Fayetteville Division	71.8 Tons	
The Goodyear Tire & Rubber Company	81 Tons	
HQ XVIII ABN Corps & Fort Bragg	89 Tons	
DAK Resins, LLC	101 Tons	
Public Works Commission Butler-Warner Generation Plant	148.5 Tons	
Cargill Inc - Fayetteville	208 Tons	
Cumberland Co - Ann Street Landfill		1 Ton (2003)
Rankin Brothers Company		2 Tons (1999)
National Linen Service		2 Tons (1999)
Fayetteville Gas Producers Inc ** INACTIVE **		2 Tons (1999)
Veterans Affairs Medical Center - Fayetteville		3 Tons (1999)
Highland Paving Company, LLC		3.6 Tons (2004)
M J Soffe Co		6 Tons (1999)
Pope Air Force Base		7.5 Tons (2003)
Cape Fear Valley Med Center		8.4 Tons (2003)
Barnhill Contracting - Fayetteville Plant		8.9 Tons (2002)
Texfi Blends Inc**Inactive**		15.6 Tons (1999)
APAC Atlantic, Inc - Shaw Plant		17.8 Tons (2003)
Hexion Specialty Chemicals, Inc.		25.8 Tons (2003)
<b>Total Reported Emissions</b>	<b>728.1</b>	
<b>Total Assumed Emissions</b>		<b>103.6</b>
<b>Grand Total</b>		<b>831.7</b>

**Table A9: Facilities in Davidson County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Vitafoam Incorporated	0.1 Tons	
Exopack - Thomasville, LLC	0.1 Tons	
Councill Company, LLC - Plant #1	3.1 Tons	
T I Industries	3.3 Tons	
Kurz Transfer Products, LLC	3.4 Tons	
StrideMark, LLC	8.7 Tons	
Thomasville Furniture Plant D	9.4 Tons	
Lexington Furniture Plant 12 ** INACTIVE **	11.3 Tons	
Thomasville Furniture Plant B ** INACTIVE **	11.3 Tons	
NC Municipal Power Agency No. 1 Lexington, Plant No. 1	11.4 Tons	
Lexington Furniture Industries Plant 2	12.3 Tons	
NC Municipal Power Agency No. 1- Lexington Plant No. 2	13.5 Tons	
Lexington Furniture Inc., Plant 5	17.8 Tons	
Cunningham Brick Company Inc	19.6 Tons	
Thomasville Furniture Plant C/M/W/SB	21.4 Tons	
Stanley Furniture Company - Lexington Mfg	24 Tons	
Thomasville Furniture Plant A/X/V Face	26.3 Tons	
Lexington Furniture Plants 7 8 9 ** INACTIVE **	31.3 Tons	
Thomasville Furniture Industries, Inc. - Plant SFD/SFLP	37.2 Tons	
Thomasville Furniture Plant E/CDF/CDK/NV	42.5 Tons	
Lexington Furniture Plant 1	47 Tons	
PPG Industries Fiber Glass Products, Inc.	227 Tons	
Owens-Brockway Glass Container Plt 6	578.8 Tons	
Transcontinental Gas Pipeline Corp	3,222.2 Tons	
Superior Wood Products, Inc.		0 Tons (2002)
Dell Inc		0.1 Tons (2003)
Tomlinson/Erwin-Lambeth, Inc.		0.1 Tons (2003)
Leggett & Platt, Incorporated - Metal Bed Rail		0.1 Tons (2002)
LKF Inc		0.1 Tons (2002)
Georgia - Pacific Resins Inc		0.2 Tons (1999)
Diebold Southeast Manufacturing, Inc.		0.2 Tons (1999)
Acme Face Veneer Company		0.2 Tons (2002)
Cardinal Container Services Inc **INACTIVE**		0.3 Tons (1996)
Thomasville Veneer Company		0.5 Tons (2002)
Burlington Ind - Denton Plant ** INACTIVE **		0.6 Tons (1999)
Central Lumber Company, Inc.		0.6 Tons (2002)
Thomas Manufacturing Co Of Thomasville		0.6 Tons (2002)
Carolina Veneer of Thomasville Inc ** INACTIVE **		1 Ton (1999)
Commercial Carving Company		1 Ton (1999)
Hekman Furniture Company		1 Ton (1999)
Leonard Block Company		1 Ton (1999)
Leggett & Platt - Metal Bed Rail		1 Ton (1999)
Councill Company, LLC - Plant #3		1 Ton (1999)
RMC Mid-Atlantic, LLC - Thomasville Plant		1 Ton (1999)

**Table A9: Facilities in Davidson County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Councill Company, LLC - Plant #2		1 Ton (1999)
Santaro Construction Co **inactive**		1 Ton (1999)
Conner Carving and Turning Co Inc ** INACTIVE **		1 Ton (1999)
Southern Veneer Company, Inc.		1.2 Tons (2002)
Lexington Furniture Plt 3 **INACTIVE**		1.7 Tons (1999)
Finch Industries Inc		1.8 Tons (1999)
Celand Yarn Dyers Inc		1.8 Tons (2003)
The North Carolina Moulding Company		2 Tons (1999)
Green Printing and Packaging Company		2 Tons (1999)
Davidson Water Inc		2 Tons (1999)
Stone Container Corporation d/b/a Smurfit-Stone Container		2.5 Tons (2003)
Duracell Global Business Management Group		3 Tons (1999)
Moll Industries, Inc. - Lexington Division		3 Tons (1999)
Hanes Construction Company		4.4 Tons (2003)
Kimberly Clark Corporation		6.4 Tons (2003)
Dimension Milling Company, Inc.		7.3 Tons (2002)
Pallet Resource of NC, Inc.		18.7 Tons (2003)
<b>Total Reported Emissions</b>	<b>4,383.0</b>	
<b>Total Assumed Emissions</b>		<b>71.39</b>
<b>Grand Total</b>		<b>4,454.4</b>

**Table A10: Facilities in Davie County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Panels, Services & Components, Inc.	8.6 Tons	
Thomson Crown Wood Products Company ** INACTIVE **	27.8 Tons	
Kohler Co. - Baker Furniture		0.8 Tons (2002)
Funder America, Inc		12.7 Tons (2002)
Ingersoll - Rand Company		19 Tons (1999)
<b>Total Reported Emissions</b>	<b>36.4</b>	
<b>Total Assumed Emissions</b>		<b>32.5</b>
<b>Grand Total</b>		<b>68.9</b>

**Table A11: Facilities in Forsyth County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Microfibres, Inc.	19 Tons	
Hanes Dye & Finishing	135 Tons	
R.J. Reynolds Tobacco Company (00339)	365.6 Tons	
Thomasville Furniture	26.9 Tons	
R.J. Reynolds Tobacco Company (00405)	9 Tons	
Brady Furniture	1.3 Tons	
Seimens Westinghouse Power Corporation	25.9 Tons	
Highland Industries, Inc.	12 Tons	
Hooker Furniture Corporation	0.3 Tons	

**Table A11: Facilities in Forsyth County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
R.J. Reynolds Packaging Division (00465)	20.2 Tons	
R.J. Reynolds Packaging Division (00466)	9.5 Tons	
Rexam Beverage Can	8.7 Tons	
Corn Products International, Inc.	402.1 Tons	
R.J. Reynolds Tobacco Company (00745)	1258.7 Tons	
Sun Chemical Corp. – Specialty Inks	0.8 Tons	
Classic Packaging	0.1 Tons	
Archie Elledge Plant	3.8 Tons	
Bids, Inc.	3.3 Tons	
Americraft Carton Group, Inc.	0.1 Tons	
Muddy Creek POTW	17.1 Tons	
Salem Energy Systems, LLC	27.7 Tons	
The Encore Group Inc. DBA Xpres	2.3 Tons	
Cloverleaf Mixing, Inc.	2.4 Tons	
Piedmont Landfill & Recycling Center	1.6 Tons	
Wake Forest University		23 Tons (1999)
Winston Weaver Company, Inc.		1.1 Tons (1999)
Royster-Clark, Inc.		8.4 Tons (1999)
Southern Tool Manufacturing Co.		0.2 Tons (1999)
NC Baptist Hospital		13.8 Tons (1999)
Forsyth Technical Community College		0.1 Tons (1999)
Sara Lee Underwear		15.7 Tons (1999)
Sara Lee Hosiery		7.1 Tons (1999)
Associated Posters, Inc.		3.3 Tons (1999)
Douglas Battery Manufacturing Co.		3.7 Tons (1999)
RMC Carolina Materials, Inc.		0.2 Tons (1999)
Brown & Williamson Tobacco		1.6 Tons (1999)
Ilco Unican Corporation		2.7 Tons (1999)
Jefferson Smurfit Container Corp. of America		3.5 Tons (1999)
Larco Construction (00464)		2.5 Tons (1999)
Winston-Salem State University		4.5 Tons (1999)
Vogler Funeral Home		0.1 Tons (1999)
Colliers Pinkard		0.4 Tons (1999)
Taylor Brothers, Inc.		2.2 Tons (1999)
Johnson Controls, Inc.		5 Tons (1999)
Santaro Industries, Inc. (00753)		2.1 Tons (1999)
Forsyth Memorial Hospital		5.3 Tons (1999)
Corrflex Display and Packaging		3.4 Tons (1999)
Thompson Arthur Paving		3.9 Tons (1999)
Santaro Industries, Inc. (00770)		1.4 Tons (1999)
Corilam Fabricating Company		0.2 Tons (1999)
Deere-Hitachi Construction Machinery		1.1 Tons (1999)
Larco Construction (00791)		4 Tons (1999)
Modern Machine & Metal Fabricators, Inc.		0.5 Tons (1999)
Textilease Corporation		2.8 Tons (1999)

**Table A11: Facilities in Forsyth County Reporting NOx Emissions for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
The Lee Apparel Company, Inc.		8.7 Tons (1999)
Bepco, Inc.		0.3 Tons (1999)
Wilson-Cook Medical, Inc.		0.1 Tons (1999)
Cres Tobacco Company, Inc.		3.4 Tons (1999)
Powerlab, Inc.		0.1 Tons (1999)
APAC-Carolina, Inc.		3.9 Tons (1999)
<b>Total Reported Emissions</b>	<b>2353.4</b>	
<b>Total Assumed Emissions</b>		<b>140.3</b>
<b>Grand Total</b>	<b>2493.7</b>	

**Table A12: Facilities in Guilford County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Madison Hill Funeral Service & Cremation Center	0 Tons	
Shamrock Corporation Tipping Division	0.1 Tons	
The Valspar Corporation	0.1 Tons	
Custom Finishers Inc	0.2 Tons	
Miller Desk Inc	0.2 Tons	
Lane Furniture Industries Inc. Royal Development Co Division	0.2 Tons	
Mickey Truck Bodies Inc	0.3 Tons	
Greensboro Flexible Packaging LLC dba North State Flexibles	0.3 Tons	
Shamrock Corp - Bruce St	0.4 Tons	
Shamrock Corporation - Chimney Rock Printing	0.5 Tons	
Engineered Polymer Solutions, Inc. dba Valspar Coatings	0.7 Tons	
The Sherwin - Williams Co, Consumer Group	0.9 Tons	
Akzo Nobel Coatings Inc	0.9 Tons	
Engineered Polymer Solutions Inc d.b.a. Valspar Coatings	1 Ton	
Vitafoam Inc - Pleasant Garden	1.1 Tons	
Thomas Built Buses - Fairfield Road	1.4 Tons	
Flowers Baking Company of Jamestown, Inc.	2.7 Tons	
Unitex Chemical Corporation	3.6 Tons	
Resco Products Inc	4.2 Tons	
Thomas Built Buses - Courtesy Road	5.3 Tons	
Hooker Furniture Corporation	8.1 Tons	
Konica Minolta Manufacturing USA Inc	8.7 Tons	
NC Municipal Power Agency No. 1 - High Point Plant 1	11.4 Tons	
NC Municipal Power Agency No. 1 - High Point Plant 2	11.4 Tons	
City of Greensboro - White Street Landfill	12.4 Tons	
City of Greensboro - Thomas Z. Osborne POTW	12.6 Tons	
The University of North Carolina at Greensboro - Physical pl	12.8 Tons	
Marsh Furniture Company	15.2 Tons	
Carolina By-Products (Greensboro) ** INACTIVE **	16 Tons	
Hanson Brick - Pleasant Garden Plant #1	16.8 Tons	
Lorillard Tobacco Company	20.2 Tons	

**Table A12: Facilities in Guilford County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Guilford Mills - George Greenberg Plant ** INACTIVE **	40.7 Tons	
Cone Denim LLC - White Oak Plant	127.4 Tons	
Brayton International Inc		1.5 Tons (2002)
Jefferson-Pilot Life Insurance Company **Inactive**		0 Tons (1999)
Wysong & Miles Machinery ** INACTIVE **		0 Tons (1999)
Bolection Door, A Division of Marshfield DoorSystems, Inc.		0 Tons (1999)
Snyder Paper Corporation - Synder Cushion of High Point		0 Tons (2002)
Smurfit-Stone Container Enterprises, Inc.		0 Tons (1999)
Patrician Furniture, Inc. d/b/a Patrician Furniture Company		0 Tons (2002)
Oldcastle Precast, Inc.		0.1 Tons (2003)
Chemcentral Atlantic Corporation		0.1 Tons (2003)
Guilford Mills, Inc. - Hornaday Plant ** INACTIVE **		0.1 Tons (2003)
First Line Activewear Inc **Inactive**		0.1 Tons (1996)
Davis Furniture Industries, Inc. - Plant 2		0.1 Tons (2003)
Leggett & Platt, Inc.		0.1 Tons (2003)
Associated Asphalt Greensboro, Inc.		0.2 Tons (1999)
DaimlerChrysler Commercial Buses North Carolina, LLC		0.2 Tons (2003)
High Point Fibers, Inc.		0.2 Tons (2002)
Swaim Metals, Inc.		0.3 Tons (2003)
RMC Mid Atlantic, LLC d/b/a RMC Metromont Materials		0.3 Tons (2002)
Drexel Heritage Furnishings Inc		0.3 Tons (2002)
United Metal Finishing Inc		0.3 Tons (2002)
Carpenter Co.		0.4 Tons (2002)
Dow Corning Corporation		0.4 Tons (1999)
Future Foam, Inc.		0.4 Tons (2002)
Jefferson-Pilot Life Insurance Company		0.4 Tons (2003)
Metal Creations Inc		0.4 Tons (2002)
Greensboro News & Record, Inc.		0.5 Tons (2002)
Degussa Corporation		0.5 Tons (1999)
High Point Furniture Industries, Inc.		0.5 Tons (2003)
Mannington Mills, Inc. dba Mannington Laminate Floors		0.5 Tons (2003)
Prochem Chemicals Inc		0.6 Tons (1999)
Banner Pharmacaps, Inc. a subsidiary of Sobel USA		0.7 Tons (1999)
Haworth Myrtle & Muller **INACTIVE**		0.7 Tons (1996)
HM Real Estate Co. No. 1 dba Woodmark Originals, Inc.		0.8 Tons (2003)
Bush Industries, Inc. d/b/a The Color Works, Inc.		0.8 Tons (2003)
RF Micro Devices, Inc. - Fab. 2		0.9 Tons (2002)
Goria Enterprises, Inc.		1 Ton (1999)
Thomasville - Dexel Incorporated		1 Ton (1999)
Oakdale Cotton Mills, Inc.		1 Ton (1999)
Thomasville - Dexel Incorporated ** INACTIVE **		1 Ton (1999)
Leggett & Platt Inc - Guilford Fibers ** INACTIVE **		1 Ton (1999)
City of Greensboro - N Buffalo WWTP		1 Ton (1999)

**Table A12: Facilities in Guilford County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Brenntag Southeast, Inc.		1 Ton (1999)
Royal Carolina Corporation		1 Ton (1999)
Ritch Face Veneer Company & Faces South, Inc.		1 Ton (1999)
Magellan Terminals Holdings, L.P.		1 Ton (1999)
Haworth, Inc. - Haworth Wood Seating		1.1 Tons (1999)
Henredon Furniture Industries, Inc. - Ward Plant		1.2 Tons (2003)
City of Greensboro - Kenneth Lift Station		1.3 Tons (2003)
North Carolina Agricultural and Technical State University		1.5 Tons (1999)
Henredon Furniture Industries, Inc. - Brevard Plant		1.6 Tons (2003)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #15		1.7 Tons (2003)
Piedmont Chemical Industries I, LLC		1.7 Tons (1999)
Harvin Reaction Technology, Inc.		1.7 Tons (2002)
Tyco Electronics Corporation		1.9 Tons (1999)
RF Micro Devices, Inc. - FAB 1, FAB 3 and Packaging		1.9 Tons (2002)
Piedmont Hardwood Dry Kiln Company		2 Tons (1999)
Claude Gable Company Inc		2 Tons (1999)
Lin Pac Corrugated Inc		2 Tons (1999)
Highland Containers, Inc.		2 Tons (1999)
Guilford Mills - Friendship Facility		2 Tons (1999)
Guilford College - Main Campus		2.1 Tons (2002)
Shionogi Qualicaps Inc		2.5 Tons (2002)
Santaro Manufacturing Company Inc**INACTIVE**		2.6 Tons (1999)
Carolina Container Company		2.8 Tons (2003)
Mannington Mills, Inc. - Mannington Wood Floors Company		2.8 Tons (2003)
OMNOVA Solutions Inc ** INACTIVE **		2.8 Tons (1999)
Chemol Inc		2.9 Tons (1999)
Culp Inc - Ticking		3 Tons (1999)
Syngenta Crop Protection Inc		3.4 Tons (1999)
Motiva Enterprises LLC - Greensboro		3.4 Tons (2003)
TransMontaigne Product Services, Inc.		3.7 Tons (2002)
Cascade Die Casting Group, Inc. - Atlantic Division		3.8 Tons (2003)
Gilbarco, Inc.		4 Tons (1999)
Fiber Dynamics, Inc.		4 Tons (2002)
City of High Point - Eastside Wastewater Treatment Plant		4.1 Tons (2003)
Pine Needle LNG Company LLC		4.9 Tons (1999)
Slane Hosiery Mills Inc		5.1 Tons (1999)
International Aggregate, Inc. ** INACTIVE **		6 Tons (1999)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #10		6.1 Tons (1999)
Nello L. Teer Company		6.3 Tons (1999)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #11		6.5 Tons (2003)
Procter & Gamble Manufacturing Company		6.5 Tons (1999)
Blythe Construction, Inc - Plant #1		8.1 Tons (2003)
The Moses H Cone Memorial Hospital		8.8 Tons (2002)

**Table A12: Facilities in Guilford County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
CDR Holdings, L.L.C. dba Charles D. Roberts Company		9.9 Tons (2003)
Kao Specialties Americas, LLC		10.4 Tons (1999)
Elastic Fabrics of America		12.4 Tons (1999)
Guilford Mills - Maurice Fishman Plt **INACTIVE**		13.8 Tons (1999)
Precision Fabrics Group Inc		16 Tons (1999)
The Procter & Gamble Manufacturing Company - Brown Summit		25.1 Tons (1999)
Hayworth Roll & Panel Company Inc		30.3 Tons (1999)
Morflex Chemical Company Inc		47.6 Tons (2003)
<b>Total Reported Emissions</b>	<b>337.79</b>	
<b>Total Assumed Emissions</b>		<b>319.7</b>
<b>Grand Total</b>		<b>657.5</b>

**Table A13: Facilities in Haywood County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Lea Industries Incorporated ** INACTIVE **	37.6 Tons	
Blue Ridge Paper Products - Canton Mill	4,694.9 Tons	
Waynesville Waste Water Treatment Plant		0.2 Tons (1999)
Airboss Rubber Compounding Inc.		0.2 Tons (1999)
Oaks Unlimited - Division of Fiber Fuels Inc		1 Tons (1999)
APAC-Tennessee Harrison Construction - Waynesville Asphalt		1.5 Tons (1999)
Giles Chemical		1.6 Tons (1999)
Blue Ridge Paper Products - Waynesville		5.1 Tons (1999)
<b>Total Reported Emissions</b>	<b>4732.5</b>	
<b>Total Assumed Emissions</b>		<b>9.6</b>
<b>Grand Total</b>		<b>4742.1</b>

**Table A14: Facilities in Stokes County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
KobeWieland Copper Products, LLC	3 Tons	
Charah Environmental, Inc. ** INACTIVE **	9 Tons	
Duke Energy Corp - Belews Creek Steam Station	32,500 Tons	
Bill Hanks Lumber Company		0.2 Tons (2002)
JPS Elastomerics Corporation		0.9 Tons (2003)
<b>Total Reported Emissions</b>	<b>32,512.0</b>	
<b>Total Assumed Emissions</b>		<b>1.1</b>
<b>Grand Total</b>		<b>32,513.1</b>



**Table A15: Facilities in Surry County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Barnhardt Manufacturing Company	3.7 Tons	
Bassett Furniture, Inc.	29 Tons	
Vaughan-Bassett Furn Co - Elkin Furniture	34.4 Tons	
Interface Fabrics Group South, Inc.	78 Tons	
Weyerhaeuser Company - Elkin Plant	98 Tons	
RMC Mid-Atlantic, LLC - DBA- RMC Metromont Materials		0 Tons (2003)
Wayne Farms- Elkin		0.1 Tons (1999)
The North Carolina Granite Corporation		0.1 Tons (2002)
Henredon Furniture Industries, Inc.		0.1 Tons (2003)
Rack Works Inc **INACTIVE**		0.4 Tons (1996)
Kentucky Derby Hosiery Co., Inc.		0.6 Tons (2002)
Surry Community College		1 Ton (1999)
Perdue Farms Incorporated		1 Ton (1999)
LS Starrett Company		1 Ton (1999)
Hamlin Casting Corp.		1 Ton (2002)
Wayne Farms, LLC		1.6 Tons (2003)
Brown Wooten Mills Inc-1546 Carter St**INACTIVE**		3 Tons (1999)
Candle Corporation of America		3.1 Tons (2002)
Spencers Inc Plant No 4		5.2 Tons (1999)
APAC-Atlantic, Inc. - Thompson Arthur Divisio ** INACTIVE **		5.5 Tons (2003)
Intex Corporation ** INACTIVE **		6 Tons (1999)
Sara Lee Sock Company		6.7 Tons (2002)
Carl Rose & Sons, Inc. - Elkin Asphalt Plant		7.6 Tons (2002)
Hamilton Beach/Proctor-Silex Inc **INACTIVE**		8.8 Tons (1999)
Pine State Knitwear Company Inc ** INACTIVE **		11.3 Tons (1999)
Wayne Farms LLC		11.5 Tons (2002)
Spencers Inc Plant No 1		11.8 Tons (1999)
Renfro Corporation		15 Tons (1999)
Cross Creek Apparel, LLC		31 Tons (1999)
City of Mount Airy WWTP		99 Tons (1999)
<b>Total Reported Emissions</b>	<b>243.1</b>	
<b>Total Assumed Emissions</b>		<b>232.39</b>
<b>Grand Total</b>		<b>475.5</b>

**Table A16: Facilities in Randolph County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Vitafoam Inc	0.3 Tons	
DAR/RAN Furniture Industries	0.5 Tons	
Prestige Fabricators Inc - Foam Plant	0.8 Tons	
Confluence Holding Corp.	1.9 Tons	
Oliver Rubber Company	2.8 Tons	
Component Fabricators, Inc.	10.8 Tons	
City of Asheboro Lake Lucas PS	99 Tons	
Jowat Corporation		0 Tons (2002)
The P. & P. Chair Company		0.1 Tons (2002)

**Table A16: Facilities in Randolph County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Swaim, Inc. - Wagner Division		0.1 Tons (2003)
Carolina Business Furniture LLC		0.1 Tons (2003)
Carolina Custom Finishing, LLC		0.1 Tons (2002)
Miller Desk, Inc. - South Road Plant		0.2 Tons (2003)
Matlab, Inc. - Ramseur Plant		0.2 Tons (2003)
Liberty Veneer Company Inc **INACTIVE**		0.2 Tons (1996)
Ultracraft Company, Division of Norcraft Holdings, LP		0.2 Tons (1999)
Sapona Manufacturing Company Inc		0.3 Tons (2002)
Collier-Keyworth, Inc.		0.5 Tons (2002)
Riley Paving, Inc. - Liberty Plant		0.6 Tons (1999)
Household Products Inc **INACTIVE**		0.6 Tons (1998)
Matlab, Inc. - Plants 1-4, 5, 7, 8 and 11		0.9 Tons (2002)
Moll Industries, Inc., Mid-State Plastics Division		0.9 Tons (2003)
Miller Office Seating		1 Tons (1999)
Miller Desk Finishing **INACTIVE**		1 Tons (1999)
Elkhart Industries, LLC **INACTIVE**		1 Tons (1999)
Georgia - Pacific Corp Asheboro Plant		1 Tons (1999)
Commonwealth Hosiery Mills Inc		1.6 Tons (2002)
Gold Kist Inc		2 Tons (1999)
APAC-Atlantic, Inc., Thompson Arthur Division - Plant #6		2.2 Tons (2002)
Acme McCrary Corp Pritchard St Plant		2.3 Tons (1999)
Acme McCrary Corp North St Finishing Plt		2.5 Tons (1999)
Kayser-Roth Balfour Division		2.8 Tons (1999)
Liberty Lumber Company		3 Tons (1999)
Quality Veneer Company		3.1 Tons (2002)
Bossong Hosiery Mills Inc		3.2 Tons (1999)
Hardin's Wholesale Florist, Inc.		3.3 Tons (1999)
Energizer Battery Manufacturing, Inc.		3.5 Tons (1999)
Galey & Lord Industries Inc ** INACTIVE **		3.6 Tons (1999)
Arrow International Inc		4.2 Tons (1999)
North Carolina Zoological Park ** INACTIVE **		4.4 Tons (2002)
Nylon Dye Works, LLC.		5.1 Tons (1999)
Gilbert Hardwood Centers Inc		7 Tons (1999)
The Goodyear Tire & Rubber Company		7.7 Tons (1999)
APAC-Atlantic, Inc. - Thompson-Arthur Div. - Plant # 9		8.5 Tons (1999)
Ramtex Inc		8.7 Tons (1999)
Starpet, Inc.		9.5 Tons (2003)
Sara Lee Corporation, Underwear Division ** INACTIVE **		11.5 Tons (2003)
Seagroves Foods, Inc. ** INACTIVE **		16.4 Tons (1999)
Deep River Dyeing Company Inc		20.9 Tons (1999)
City of Asheboro Brown WTP		99.9 Tons (1999)
<b>Total Reported Emissions</b>	<b>116.1</b>	
<b>Total Assumed Emissions</b>		<b>245.9</b>
<b>Grand Total</b>		<b>362.0</b>

**Table A17: Facilities in Rockingham County Reporting NOx for Calendar Year 2000**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
The Southern Finishing Company, Inc.- Plant 10	1 Ton	
NPC, Inc. - 770 East #1	2.7 Tons	
Morehead Memorial Hospital ** INACTIVE **	4.3 Tons	
Ball Metal Beverage Container Corp	6.4 Tons	
Mohawk Carpet Corp Karastan Rug Mill	6.5 Tons	
Loparex, Inc.	7.3 Tons	
Metzeler Automotive Profile Systems North Carolina Inc	7.4 Tons	
Rockingham Power LLC	35 Tons	
Trigen Biopower Inc - Eden	70.7 Tons	
Pine Hall Brick Company Incorporated	82.9 Tons	
Miller Brewing Company - Eden Plant	540.6 Tons	
Duke Energy Corp - Dan River Steam Station	2,500 Tons	
Transcontinental Gas Pipeline Corp	5,900.3 Tons	
Southern Finishing Company Inc - Plant 7 **INACTIVE**		0.2 Tons (1999)
Fieldcrest Cannon Blanket Manufacturing ** INACTIVE **		0.2 Tons (2003)
Ensley Corporation **INACTIVE**		0.4 Tons (1996)
AMI Doduco (NC), Inc.		0.8 Tons (1999)
New Filcas of America Inc		1 Ton (1999)
Beacon Manuf **Inactive**		1.3 Tons (1996)
Glen Raven Inc Springwood Fabrics Plant ** INACTIVE **		2 Tons (1999)
APAC-Atlantic, Inc. - Thompson-Arthur Division - Plant #7		2.9 Tons (1999)
Pillowtex / Hollingsworth GP		3.1 Tons (2002)
Stoneville Furniture Company Inc ** INACTIVE **		4.6 Tons (1999)
Commonwealth Brands, Inc		5.8 Tons (2002)
Unifi, Inc. - Plant 15		8 Tons (2003)
Unifi Manufacturing, Inc. Dyeing Business Unit - Plant 2		8.6 Tons (2003)
The Equity Group, Inc. - NC Division		10.5 Tons (2002)
<b>Total Reported Emissions</b>	<b>9,165.1</b>	
<b>Total Assumed Emissions</b>		<b>49.4</b>
<b>Grand Total</b>		<b>9,214.5</b>

## Appendix B

### Facility-Specific NO<sub>x</sub> Emissions Inventory Data Calendar Year 2003

Note 1: The tables that follow are in **alphabetical order by county name**

Note 2: The following data are emissions from permitted point sources only, as reported by the facility to the North Carolina Department of Environment and Natural Resources, Division of Air Quality (NCDAQ) and reviewed by NCDAQ staff during the calendar year following the year emitted. With the exception of 1999, when all permitted facilities were required to report their NO<sub>x</sub> emissions, only larger facilities with Title V permits are required to report emissions annually. Therefore, the tables that follow show actual reported emissions for the selected year as well as “assumed” emissions for facilities that were not required to report in that year. The “assumed” emissions were taken from the latest year the source was required to report NO<sub>x</sub> emissions (year reported is in parentheses).

**Table B1: Facilities in Alamance County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
City of Burlington - South Burlington WWTP	0.1 Tons	
City of Graham Wastewater Treatment Plant	0.2 Tons	
NovaFlex Hose Inc.	1.1 Tons	
Riley Paving, Inc.	2.4 Tons	
Liggett Group - Alamance	2.9 Tons	
A.O. Smith Corporation	3 Tons	
Culp, Inc. - Culp Finishing	6.9 Tons	
Alexander Fabrics, LLLP	7.2 Tons	
Stericycle, Inc.	23.1 Tons	
New South Inc	47.9 Tons	
Burlington Industries LLC -BHF & Pioneer Plant	48.9 Tons	
Flynt Fabrics Inc ** INACTIVE **		0 Tons (1999)
City of Burlington - East Burlington WWTP		0.6 Tons (2002)
Glen Raven Mills Glen Touch Division ** INACTIVE **		1 Ton (1999)
Burlington Chemical Company Inc		1 Ton (1999)
Tower Mills Inc. ** INACTIVE **		1 Ton (1999)
Walter Kidde Portable Equipment Inc		1.7 Tons (1999)
Luxfer Gas Cylinders		2 Tons (1999)
Burlington Industries, LLC - Pioneer Plant ** INACTIVE **		3 Tons (1999)
Glen Raven Technical Fabrics, LLC		3 Tons (1999)
Cortina Fabrics, Inc.		3.2 Tons (2002)
Culp Weaving Inc		3.6 Tons (1999)
Braxton Sawmill, Inc.		3.7 Tons (2000)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #8		3.9 Tons (1999)
Craftique LLC		4 Tons (1999)
GKN Driveline - Alamance Facility		4.1 Tons (2002)
Kayser-Roth Corporation - Mens Finishing		4.4 Tons (1999)
Culp, Inc. -Upholstery Prints Division		5 Tons (1999)
Alamance Regional Medical Center, Inc.		5 Tons (1999)
Copland Industries, Inc.		13.1 Tons (2002)
A.M.P. Division of Central Paving Company, Inc.		25 Tons (2000)
National Spinning Co., Inc. - Alamance Co. Dyeing Operation		27 Tons (2000)
Carolina Finishing of North Carolina LLC - Elmira Street		49.8 Tons (2000)
Nello L. Teer Company		86.8 Tons (2000)
<b>Total Reported Emissions</b>	<b>143.7</b>	
<b>Total Assumed Emissions</b>		<b>251.89</b>
<b>Grand Total</b>		<b>395.6</b>

**Table B2: Facilities in Alexander County Reporting NOx for CalendarYear 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Chase Coating & Laminating	0 Tons	
Shurtape Technologies Inc	0.4 Tons	
Century Furniture Industries Plant #9	0.4 Tons	
Mitchell Gold	0.6 Tons	
Daniels Woodcarving Company, Inc.		0 Tons (2002)
Piedmont Wood Products		0 Tons (2004)
Nu-Mode Manufacturing Company		0 Tons (2002)
Vintage Editions, Inc.		0.1 Tons (2002)
Clayton Marcus Plant No. 1		0.3 Tons (1999)
Hancock & Moore Plt 2		4 Tons (1999)
Brushy Mountain Enterprises		4.5 Tons (2002)
Schneider Mills Inc		6.2 Tons (1999)
<b>Total Reported Emissions</b>	<b>1.4</b>	
<b>Total Assumed Emissions</b>		<b>15.1</b>
<b>Grand Total</b>		<b>16.5</b>

**Table B3: Facilities in Buncombe County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Anvil Knitwear, Inc.	39.1 Tons	
APAC Enka	9.15 Tons	
APAC Grove Stone	4.25 Tons	
APAC Weaverville	13.9 Tons	
Asheville Area Alternative Funeral and Crematory	0.07 Tons	
Asheville Mortuary Services	0.3 Tons	
Asheville Velour, Inc. (formerly Girmes)	0.337 Tons	
BASF Enka	239 Tons	
Basofil Fibers, LLC	0.304 Tons	
BorgWarner Turbo Systems	11.0 Tons	
Buncombe Co. Landfill	3.2 Tons	
Colbond, Inc.	5.75 Tons	
Cremation Services of WNC	0.32 Tons	
Day International, Inc.	10.2 Tons	
Eaton Cutler – Hammer	0.566 Tons	
Forever Faithful Pet Memorial	0.22 Tons	
Interstate Custom Crushing	1.88 Tons	
Lustar	16.5 Tons	
Metropolitan Sewerage District	4.53 Tons	
Milkco, Inc.	2.53 Tons	
Mission St. Joseph's	17.5 Tons	
Morris Funeral Home	0.12 Tons	
Owen Manufacturing	9.5 Tons	
Pechiney Plastic Packaging, Inc.	9.55 Tons	
Progress Energy Carolinas (formerly CP&L)	4980 Tons	

**Table B3: Facilities in Buncombe County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Regional Water Authority (formerly Asheville Water Authority)	0.09 Tons	
Riverside Stump Dump	3.94 Tons	
Sensible Alternatives	0.03 Tons	
US Dept. of Veterans Affairs	5.07 Tons	
Western Animal Disease Diag (formerly Diagnostic Lab)	0.22 Tons	
<b>Total Reported Emissions</b>	<b>5,389.127</b>	
<b>Total Assumed Emissions</b>		<b>0</b>
<b>Grand Total</b>	<b>5,389.127</b>	

**Table B4: Facilities in Burke County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
E J Victor Upholstery Division	0.1 Tons	
Lexington Furniture Plant 10	0.4 Tons	
E J Victor Inc	0.6 Tons	
Saft America Inc	0.7 Tons	
Basf Corp	0.9 Tons	
Molded Fiberglass Co/North Carolina	1.9 Tons	
Kohler Co., DBA Baker Furniture	2.8 Tons	
Leviton - Southern Devices Div	3.3 Tons	
Drexel Heritage Furniture Industries, Inc. Plt. 60	5.6 Tons	
Earthgrains Baking Companies Inc	7.3 Tons	
W M Cramer Lumber Co	10.7 Tons	
Broughton Hospital	15.6 Tons	
Drexel Heritage Furnishings, Inc. - Plant 43	15.7 Tons	
Carolina Mills Plt 9	18 Tons	
Burke Mills Inc	23.5 Tons	
SGL Carbon LLC	29.9 Tons	
Henredon Furniture Industries, Inc.	30.1 Tons	
Valdese Manufacturing Company	40.2 Tons	
RMC Mid-Atlantic, dba RMC Metromont Materials - Morganton		0 Tons (2002)
Robert Bergelin Company		0 Tons (2002)
SpartaCraft Inc		0 Tons (2000)
Ferguson Copeland, LLC d/b/a Ferguson Copeland Ltd Reep Driv		0.2 Tons (1999)
Synthron Inc		0.3 Tons (2002)
Packaging Corporation Of America		1 Ton (2002)
Boggs HMA, LLC - Plant 5		1 Ton (1999)
Valdese Textiles Inc		1 Ton (2002)
NC School for the Deaf		1.1 Tons (1999)
NC DOC Western Youth Institution		1.5 Tons (1999)
Burke Grading & Paving Inc - East Burke Asphalt		2 Tons (1999)
Case Farms of NC, Inc. - Rand St.		3.2 Tons (1999)

**Table B4: Facilities in Burke County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
WNC Dry Kiln, Inc		4 Tons (1999)
Valdese Weavers Inc Plant #1		5.8 Tons (1999)
Alba-Waldensian P&W Plt ** INACTIVE **		6.3 Tons (1999)
Borden Chemical Inc		7.5 Tons (2000)
Drexel Heritage Furn Industries Inc - Furn Plt ** INACTIVE **		8.7 Tons (2002)
Hickory Hill Furniture Corp		10.3 Tons (1999)
APAC-Atlantic, Inc. - Morganton Plant		11.3 Tons (1999)
<b>Total Reported Emissions</b>	<b>207.3</b>	
<b>Total Assumed Emissions</b>		<b>65.2</b>
<b>Grand Total</b>		<b>272.5</b>

**Table B5: Facilities in Caldwell County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
M & S Warehouse Inc	0.4 Tons	
Sealed Air Corp	0.6 Tons	
Shurtape Technologies Inc - Plt No 24	0.6 Tons	
Pactiv Corporation	1.4 Tons	
Kincaid Furn Plt 8 ** INACTIVE **	3.2 Tons	
Broyhill Miller Hill Complex	4 Tons	
Meridian Automotive Systems Inc	4.1 Tons	
Kincaid Furniture Company Plant No 5 ** INACTIVE **	4.1 Tons	
NEPTCO Inc	5 Tons	
Martin Marietta Materials Inc	5.7 Tons	
Fairfield Chair Plt 2	7.3 Tons	
Bernhardt Furn Plts 2 and 5	17.8 Tons	
Broyhill Harper Furniture Co	23.9 Tons	
Thomasville Furniture Industries Inc - Lenoir Plt	27.3 Tons	
Broyhill Virginia Street Complex	37.9 Tons	
Bernhardt Furn Plts 1 3 & 7	39.8 Tons	
Kincaid Furn Plt 1	54.3 Tons	
Trigen Biopower Inc - Lenoir	182.5 Tons	
J & M Woodworking Plt 2		0 Tons (2002)
McCreary Modern Inc - Frame Plant		0 Tons (2002)
ECMD Inc dba Crown Heritage		0.1 Tons (1999)
Schwarz & Schwarz Inc		0.2 Tons (1999)
Lenoir Mirror Plnts 1 & 3		0.7 Tons (1999)
Midstate Contractors Inc		2 Tons (1999)
Paxar Corporation - Printed Label Group		4.3 Tons (1999)
Omni Supply Inc		5 Tons (1999)
Mat NuWood LLC		5.7 Tons (1999)
Sealed Air Corp - Hudson		6.3 Tons (2002)
Fairfield Chair Plt 1		7.8 Tons (1999)



**Table B5: Facilities in Caldwell County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Granite Hardwoods Inc		9 Tons (1999)
Associated Hardwood Products, Inc.		17 Tons (1999)
<b>Total Reported Emissions</b>	<b>419.9</b>	
<b>Total Assumed Emissions</b>		<b>58.1</b>
<b>Grand Total</b>		<b>478.0</b>

**Table B6: Facilities in Catawba county reporting NOx(CAS: NOx) for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Null Industries Inc ** INACTIVE **	0 Tons	
Ramsey's Finishing, Inc.	0 Tons	
Cranford Woodcarving Finishing Plant No 3	0.1 Tons	
Sherrill Furniture Company, Inc., CTH-Sherrill Occasional	0.3 Tons	
Plastic Packaging Inc	0.3 Tons	
Claremont NA Cable, LLC	0.3 Tons	
Laneventure, Plant No. 14	0.4 Tons	
Hickory Springs Manufacturing - Conover Complex	0.4 Tons	
City of Newton - Casa Christina Site	0.8 Tons	
Synthetics Finishing Hickory	0.9 Tons	
Progressive Furniture Inc	1 Ton	
Joan Fabrics Corporation-Newton	1.1 Tons	
Midstate Contractors, Inc.	1.4 Tons	
Commscope Network Cable Division	1.6 Tons	
Carpenter Company Conover	1.6 Tons	
Synthetics Finishing Longview	2.1 Tons	
Frye Regional Medical Center	2.5 Tons	
City of Newton - Sarstedt Site	3.1 Tons	
Hooker Furniture Corporation ** INACTIVE **	3.1 Tons	
Ethan Allen Operations, Inc. Maiden Division	3.3 Tons	
City of Newton Inno - Therm Products Site	3.4 Tons	
City of Newton - Polymask Corp Site	3.5 Tons	
City of Newton - Moretz Inc. Site	3.6 Tons	
Inno-Therm Products LLC	3.6 Tons	
Hickory Chair Company, Plant 7	4.2 Tons	
Hickory Springs Manufacturing Company	5.5 Tons	
Blackburn Sanitary Landfill	6.9 Tons	
Century Furniture Industries, Inc., Plants #3 and #7	8.4 Tons	
Hickory Chair Company Plant #20 ** INACTIVE **	8.6 Tons	
Shurtape Technologies - Hickory/Highland Plt	10.2 Tons	
HWS Company Inc. dba Hickory White	12.1 Tons	
Broyhill Furniture Conover Plant ** INACTIVE **	12.2 Tons	
Century Furniture Industries Plant #1	16.4 Tons	
Duke Energy Corporation - Marshall Steam Station	20,397.7 Tons	
Carolina House Furniture Inc		0 Tons (2002)
Thomasville Furniture Industries, Inc., Upholstery Plant 5		0 Tons (2002)

**Table B6: Facilities in Catawba county reporting NO<sub>x</sub>(CAS: NO<sub>x</sub>) for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Carolina Glove Company, Plant #8		0 Tons (2002)
Carolina Solvents, Inc.		0.1 Tons (2002)
Century Furniture Industries, Plt 40 Technical Center		0.1 Tons (2002)
Vanguard Furniture Company, Inc., Plant No. 2		0.2 Tons (1999)
Synthetics Finishing Conover		0.2 Tons (2002)
Unifour Finishers, Inc., Division I		0.4 Tons (2002)
Appalachian Hardwood Flooring		0.4 Tons (2002)
Unifour Finishers, Inc., Division II		0.4 Tons (2002)
Special Metals Welding Products Company		0.5 Tons (2002)
Karolina Polymers, Inc. ** INACTIVE **		0.6 Tons (2002)
City of Hickory, Henry Fork WWTP ** INACTIVE **		0.6 Tons (2002)
Jackson Lea ** INACTIVE **		1 Tons (1999)
GKN Sinter Metals, Inc.		1 Tons (1999)
Chelsea House-Port Royal Inc		1 Tons (1999)
Newton Sanitary Landfill		1 Tons (2002)
Southern Furn Co of Conover Catawba Plt		1.5 Tons (2002)
Weyerhaeuser Company - Newton		2 Tons (1999)
Carolina Paving of Hickory Inc		2 Tons (1999)
Conover Lumber Co Inc		2 Tons (1999)
Thomasville Furniture Industries, Inc., Upholstery Plant 9		2 Tons (1999)
Midstate Mills Inc		2 Tons (1999)
Carolina Container Corporation		2.1 Tons (1999)
Tradewinds International, Inc.		2.7 Tons (2002)
Classic Leather Inc		2.9 Tons (1999)
Commscope Inc Catawba Plant		3.3 Tons (2000)
Bassett Upholstery Division		3.3 Tons (1999)
Southern Furniture Company of Conover, Inc., Plant No. 2		3.3 Tons (1999)
Terra-Mulch Products, LLC		4.8 Tons (1999)
Spectrum Textured Yarns Inc-Hickory Plant ** INACTIVE **		5 Tons (2000)
City of Newton, Clark Creek Wastewater Treatment Plant		6 Tons (1999)
C Nelson Sigmon Paving Inc		6 Tons (1999)
Southern Furn Co of Conover #1		10.1 Tons (1999)
APAC-Atlantic, Inc. - Hickory Plant		10.8 Tons (2002)
Delta Apparel, Inc.		17 Tons (1999)
<b>Total Reported Emissions</b>	<b>20520.6</b>	
<b>Total Assumed Emissions</b>		<b>96.29</b>
<b>Grand Total</b>		<b>20616.9</b>

**Table B7: Facilities in Cumberland County Reporting NO<sub>x</sub> for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Black & Decker (US) Inc.	0.8 Tons	
Cumberland Co - Ann Street Landfill	1 Tons	
Purolator Products Inc	5.9 Tons	
Pope Air Force Base	7.5 Tons	
Cape Fear Valley Med Center	8.4 Tons	

**Table B7: Facilities in Cumberland County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
APAC Atlantic, Inc - Shaw Plant	17.8 Tons	
Hexion Specialty Chemicals, Inc.	25.8 Tons	
DAK Resins, LLC	74.7 Tons	
Carolina By-Products Fayetteville Division	76.7 Tons	
HQ XVIII ABN Corps & Fort Bragg	91 Tons	
Public Works Commission Butler-Warner Generation Plant	113.3 Tons	
The Goodyear Tire & Rubber Company	157.6 Tons	
Cargill Inc - Fayetteville	219 Tons	
Rankin Brothers Company		2 Tons (1999)
National Linen Service		2 Tons (1999)
Veterans Affairs Medical Center - Fayetteville		3 Tons (1999)
Highland Paving Company, LLC		3.6 Tons (2004)
M J Soffe Co		6 Tons (1999)
Barnhill Contracting - Fayetteville Plant		8.9 Tons (2002)
DAK Resins Cedar Creek Site		10.6 Tons (2002)
Dupont Teijin Films		11.7 Tons (2001)
<b>Total Reported Emissions</b>	<b>799.5</b>	
<b>Total Assumed Emissions</b>		<b>47.8</b>
<b>Grand Total</b>		<b>847.3</b>

**Table B8: Facilities in Davidson County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Dell, Inc	0.1 Tons	
Tomlinson/Erwin-Lambeth, Inc.	0.1 Tons	
Exopack - Thomasville, LLC	0.1 Tons	
Green Printing and Packaging Company	0.1 Tons	
Kurz Transfer Products, LLC	0.5 Tons	
Thomasville Furniture Plant B ** INACTIVE **	0.6 Tons	
Celand Yarn Dyers Inc	1.8 Tons	
Stone Container Corporation d/b/a Smurfit-Stone Container	2.5 Tons	
T I Industries	3 Tons	
Hanes Construction Company	4.4 Tons	
Shaw Industries Group, Inc. - Plant LP	4.5 Tons	
Thomasville Furniture Plant D	4.6 Tons	
Kimberly Clark Corporation	6.4 Tons	
StrideMark, LLC	6.6 Tons	
Lexington Furniture Plant 12 ** INACTIVE **	6.8 Tons	
Lexington Furniture Inc., Plant 5	12.6 Tons	
Lexington Furniture Plant 1	14.4 Tons	
Stanley Furniture Company - Lexington Mfg	15.9 Tons	
Cunningham Brick Company Inc	16.7 Tons	
Thomasville Furniture Plant C/M/W/SB	17.8 Tons	
Pallet Resource of NC, Inc.	18.7 Tons	
Lexington Furniture Industries Plant 2	21.1 Tons	
Thomasville Furniture Plant A/X/V Face	22.3 Tons	

**Table B8: Facilities in Davidson County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
PPG Industries Fiber Glass Products, Inc.	88.4 Tons	
Owens-Brockway Glass Container Plt 6	576.6 Tons	
Transcontinental Gas Pipeline Corp	915.4 Tons	
Vitafoam Incorporated		0 Tons (2002)
Superior Wood Products, Inc.		0 Tons (2002)
Leggett & Platt, Incorporated - Metal Bed Rail		0.1 Ton (2002)
LKF Inc		0.1 Ton (2002)
Georgia - Pacific Resins Inc		0.2 Tons (1999)
Diebold Southeast Manufacturing, Inc.		0.2 Tons (1999)
Acme Face Veneer Company		0.2 Tons (2002)
Thomasville Veneer Company		0.5 Tons (2002)
Burlington Ind - Denton Plant ** INACTIVE **		0.6 Tons (1999)
Central Lumber Company, Inc.		0.6 Tons (2002)
Thomas Manufacturing Co Of Thomasville		0.6 Tons (2002)
Commercial Carving Company		1 Ton (1999)
Conner Carving and Turning Co Inc ** INACTIVE **		1 Ton (1999)
Hekman Furniture Company		1 Ton (1999)
Leonard Block Company		1 Ton (1999)
Santaro Construction Co **inactive**		1 Ton (1999)
Councill Company, LLC - Plant #3		1 Ton (1999)
RMC Mid-Atlantic, LLC - Thomasville Plant		1 Ton (1999)
Councill Company, LLC - Plant #2		1 Ton (1999)
Leggett & Platt - Metal Bed Rail		1 Ton (1999)
Southern Veneer Company, Inc.		1.2 Tons (2002)
Finch Industries Inc		1.8 Tons (1999)
The North Carolina Moulding Company		2 Tons (1999)
Davidson Water Inc		2 Tons (1999)
Councill Company, LLC - Plant #1		2.8 Tons (2002)
Duracell Global Business Management Group		3 Tons (1999)
Moll Industries, Inc. - Lexington Division		3 Tons (1999)
Dimension Milling Company, Inc.		7.3 Tons (2002)
NC Municipal Power Agency No. 1 Lexington, Plant No. 1		11.4 Tons (2000)
NC Municipal Power Agency No. 1- Lexington Plant No. 2		13.5 Tons (2000)
Thomasville Furniture Industries, Inc. - Plant SFD/SFLP		37.2 Tons (2000)
Thomasville Furniture Plant E/CDF/CDK/NV		42.5 Tons (2000)
<b>Total Reported Emissions</b>	<b>1,762.0</b>	
<b>Total Assumed Emissions</b>		<b>139.8</b>
<b>Grand Total</b>		<b>1,901.8</b>

**Table B9: Facilities in Davie County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Thomson Crown Wood Products Company ** INACTIVE **	8.3 Tons	
Kohler Co. - Baker Furniture		0.8 Tons (2002)
Funder America, Inc		12.7 Tons (2002)
Ingersoll - Rand Company		19 Tons (1999)
<b>Total Reported Emissions</b>	<b>8.3</b>	
<b>Total Assumed Emissions</b>		<b>32.5</b>
<b>Grand Total</b>		<b>40.8</b>

**Table B10: Facilities in Forsyth County Reporting NOx Emissions for Calendar Year 2003**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
Microfibres, Inc.	12.9 Tons	
Hanes Dye & Finishing	86.6 Tons	
R.J. Reynolds Tobacco Company (00339)	316 Tons	
Javic Properties, LLC	22.5 Tons	
Sara Lee Underwear	15.7 Tons	
R.J. Reynolds Tobacco Company (00405)	6.4 Tons	
Highland Industries, Inc.	10.3 Tons	
Hooker Furniture Corporation	0.3 Tons	
R.J. Reynolds Packaging Division (00465)	17.5 Tons	
R.J. Reynolds Packaging Division (00466)	7.9 Tons	
Rexam Beverage Can	10.4Tons	
Corn Products International, Inc.	501.4 Tons	
R.J. Reynolds Tobacco Company (00745)	972 Tons	
Sun Chemical Corp. – Specialty Inks	0.8 Tons	
Powerlab, Inc.	0.2 Tons	
Carolina Art and Frame	3.4 Tons	
Wake Forest University		0.9 Tons (2002)
NC Baptist Hospital		18.7 Tons (2002)
Sara Lee Hosiery		7.1 Tons (2002)
Kaba Ilco Corporation		2.7 Tons (2002)
Vogler & Son's Funeral Home		0.2 Tons (2002)
Taylor Brothers, Inc.		3.7 Tons (2002)
Johnson Controls, Inc.		4.8 Tons (2002)
APAC-Carolina, Inc. Thompson-Arthur Division		2.1 Tons (2002)
VF Jeanswear, Inc.		8 Tons (2002)
City of Winston-Salem – Archie Elledge WWTP		15.1 Tons (2002)
Salem Energy Systems, LLC		32.5 Tons (2002)
Piedmont Landfill & Recycling Cneter		1.7 Tons (2002)
Royster-Clark, Inc.		0.6 Tons (2001)
Advanced Turbine Components		17 Tons (2001)
Winston-Salem State University		4.5 Tons (2001)
Americraft Carton Group, Inc.		0.2 Tons (2001)
Cremation Services, Inc.		0.2 Tons (2001)
City of Winston-Salem Muddy Creek		17.1 Tons (2001)

**Table B10: Facilities in Forsyth County Reporting NO<sub>x</sub> Emissions for Calendar Year 2003**

Facility Name	Reported Amount (2000)	Additional Assumed Amount (year)
WWTP		
Central Carolina Pet Services, Inc.		0.1 Tons (2001)
Southern Tool Manufacturing Co.		0.2 Tons (2000)
Brady Furniture		1.3 Tons (2000)
Transflo Terminal Services, Inc.		3.3 Tons (2000)
The Encore Group Inc. DBA Xpres		2.3 Tons (2000)
Cloverleaf Mixing, Inc.		2.4 Tons (2000)
Winston Weaver Company, Inc.		1.1 Tons (1999)
Forsyth Technical Community College		0.1 Tons (1999)
Douglas Battery Manufacturing Co.		3.7 Tons (1999)
RMC Carolina Materials, Inc.		0.2 Tons (1999)
Jefferson Smurfit Container Corp. of America		3.5 Tons (1999)
Larco Construction		2.5 Tons (1999)
Winston Tower Main, LLC		0.4 Tons (1999)
Forsyth Memorial Hospital		5.3 Tons (1999)
Sonoco Corrflex		3.4 Tons (1999)
APAC – Carolina, Inc. Thompson-Arthur Division (00770)		1.4 Tons (1999)
Corilam Fabricating Company		0.2 Tons (1999)
Deere-Hitachi Construction Machinery		1.1 Tons (1999)
Unifirst		2.8 Tons (1999)
Bepco, Inc.		0.3 Tons (1999)
Wilson-Cook Medical, Inc.		0.1 Tons (1999)
APAC Atlantic, Inc. Thompson Arthur Division (00909)		3.9 Tons (1999)
<b>Total Reported Emissions</b>	<b>1984.3</b>	
<b>Total Assumed Emissions</b>		<b>176.7</b>
<b>Grand Total</b>	<b>2161.0</b>	

**Table B11: Facilities in Guilford County Reporting NO<sub>x</sub> for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Banknote Corporation of America, Inc.	0 Tons	
Oldcastle Precast, Inc.	0.1 Tons	
Chemcentral Atlantic Corporation	0.1 Tons	
Guilford Mills, Inc. - Hornaday Plant ** INACTIVE **	0.1 Tons	
Davis Furniture Industries, Inc. - Plant 2	0.1 Tons	
Leggett & Platt, Inc.	0.1 Tons	
Shamrock Corporation Tipping Division	0.1 Tons	
Custom Finishers Inc	0.1 Tons	
DaimlerChrysler Commercial Buses North Carolina, LLC	0.2 Tons	
Shamrock Corp - Bruce St	0.2 Tons	
Miller Desk Inc	0.2 Tons	
Swaim Metals, Inc.	0.3 Tons	
The Sherwin - Williams Company - Stagecoach Trail	0.3 Tons	

**Table B11: Facilities in Guilford County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Greensboro Flexible Packaging LLC dba North State Flexibles	0.3 Tons	
Mickey Truck Bodies Inc	0.4 Tons	
Jefferson-Pilot Life Insurance Company	0.4 Tons	
High Point Furniture Industries, Inc.	0.5 Tons	
Mannington Mills, Inc. dba Mannington Laminate Floors	0.5 Tons	
Engineered Polymer Solutions Inc d.b.a. Valspar Coatings	0.7 Tons	
Engineered Polymer Solutions, Inc. dba Valspar Coatings	0.8 Tons	
HM Real Estate Co. No. 1 dba Woodmark Originals, Inc.	0.8 Tons	
City of Greensboro - White Street Landfill	0.8 Tons	
Bush Industries, Inc. d/b/a The Color Works, Inc.	0.8 Tons	
The Sherwin - Williams Co, Consumer Group	0.9 Tons	
Thomas Built Buses - Fairfield Road	1 Ton	
Henredon Furniture Industries, Inc. - Ward Plant	1.2 Tons	
City of Greensboro - Kenneth Lift Station	1.3 Tons	
Henredon Furniture Industries, Inc. - Brevard Plant	1.6 Tons	
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #15	1.7 Tons	
Carolina Container Company	2.8 Tons	
Mannington Mills, Inc. - Mannington Wood Floors Company	2.8 Tons	
Flowers Baking Company of Jamestown, Inc.	2.9 Tons	
Colonial Pipeline Company	2.9 Tons	
Motiva Enterprises LLC - Greensboro	3.4 Tons	
Cascade Die Casting Group, Inc. - Atlantic Division	3.8 Tons	
Thomas Built Buses - Courtesy Road	4.1 Tons	
City of High Point - Eastside Wastewater Treatment Plant	4.1 Tons	
High Point Regional Health System	5 Tons	
Hooker Furniture Corporation	5.2 Tons	
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #11	6.5 Tons	
Blythe Construction, Inc - Plant #1	8.1 Tons	
Resco Products Inc	8.3 Tons	
CDR Holdings, L.L.C. dba Charles D. Roberts Company	9.9 Tons	
Konica Minolta Manufacturing USA Inc	12.7 Tons	
Hanson Brick - Pleasant Garden Plant #1	13.5 Tons	
Marsh Furniture Company	19.8 Tons	
Lorillard Tobacco Company	41.7 Tons	
Morflex Chemical Company Inc	47.6 Tons	
Cone Denim LLC - White Oak Plant	73.8 Tons	
Brayton International Inc		1.5 Tons (2002)
Lane Furniture Industries Inc. Royal Development Co Division		0 Tons (2002)
Wysong & Miles Machinery ** INACTIVE **		0 Tons (1999)
Madison Hill Funeral Service & Cremation Center		0 Tons (2000)
Bolection Door, A Division of Marshfield DoorSystems, Inc.		0 Tons (1999)
Snyder Paper Corporation - Synder Cushion of High Point		0 Tons (2002)
Smurfit-Stone Container Enterprises, Inc.		0 Tons (1999)
Patrician Furniture, Inc. d/b/a Patrician Furniture Company		0 Tons (2002)
Associated Asphalt Greensboro, Inc.		0.2 Tons (1999)

**Table B11: Facilities in Guilford County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
High Point Fibers, Inc.		0.2 Tons (2002)
RMC Mid Atlantic, LLC d/b/a RMC Metromont Materials		0.3 Tons (2002)
Drexel Heritage Furnishings Inc		0.3 Tons (2002)
United Metal Finishing Inc		0.3 Tons (2002)
Carpenter Co.		0.4 Tons (2002)
Future Foam, Inc.		0.4 Tons (2002)
Metal Creations Inc		0.4 Tons (2002)
Shamrock Corporation - Chimney Rock Printing		0.5 Tons (2000)
Greensboro News & Record, Inc.		0.5 Tons (2002)
Degussa Corporation		0.5 Tons (1999)
Prochem Chemicals Inc		0.6 Tons (1999)
Banner Pharmacaps, Inc. a subsidiary of Sobel USA		0.7 Tons (1999)
Akzo Nobel Coatings Inc		0.9 Tons (2000)
RF Micro Devices, Inc. - Fab. 2		0.9 Tons (2002)
Goria Enterprises, Inc.		1 Ton (1999)
Magellan Terminals Holdings, L.P.		1 Ton (1999)
Ritch Face Veneer Company & Faces South, Inc.		1 Ton (1999)
Thomasville - Drexel Incorporated		1 Ton (1999)
City of Greensboro - N Buffalo WWTP		1 Ton (1999)
Brenntag Southeast, Inc.		1 Ton (1999)
Royal Carolina Corporation		1 Ton (1999)
Haworth, Inc. - Haworth Wood Seating		1.1 Tons (1999)
Vitafoam Inc - Pleasant Garden		1.2 Tons (2001)
North Carolina Agricultural and Technical State University		1.5 Tons (1999)
Piedmont Chemical Industries I, LLC		1.7 Tons (1999)
Harvin Reaction Technology, Inc.		1.7 Tons (2002)
Tyco Electronics Corporation		1.9 Tons (1999)
RF Micro Devices, Inc. - FAB 1, FAB 3 and Packaging		1.9 Tons (2002)
Piedmont Hardwood Dry Kiln Company		2 Tons (1999)
Lin Pac Corrugated Inc		2 Tons (1999)
Claude Gable Company Inc		2 Tons (1999)
Highland Containers, Inc.		2 Tons (1999)
Guilford Mills - Friendship Facility		2 Tons (1999)
Guilford College - Main Campus		2.1 Tons (2002)
Shionogi Qualicaps Inc		2.5 Tons (2002)
Unitex Chemical Corporation		2.6 Tons (2002)
Santaro Manufacturing Company Inc**INACTIVE**		2.6 Tons (1999)
Chemol Inc		2.9 Tons (1999)
Culp Inc - Ticking		3 Tons (1999)
Syngenta Crop Protection Inc		3.4 Tons (1999)
TransMontaigne Product Services, Inc.		3.7 Tons (2002)
Gilbarco, Inc.		4 Tons (1999)
Fiber Dynamics, Inc.		4 Tons (2002)



**Table B11: Facilities in Guilford County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Pine Needle LNG Company LLC		4.9 Tons (1999)
Slane Hosiery Mills Inc		5.1 Tons (1999)
International Aggregate, Inc. ** INACTIVE **		6 Tons (1999)
APAC-Atlantic, Inc. - Thompson Arthur Division - Plant #10		6.1 Tons (1999)
Nello L. Teer Company		6.3 Tons (1999)
Procter & Gamble Manufacturing Company		6.5 Tons (1999)
The Moses H Cone Memorial Hospital		8.8 Tons (2002)
Kao Specialties Americas, LLC		10.4 Tons (1999)
NC Municipal Power Agency No. 1 - High Point Plant 1		11.4 Tons (2000)
NC Municipal Power Agency No. 1 - High Point Plant 2		11.4 Tons (2000)
Elastic Fabrics of America		12.4 Tons (1999)
The University of North Carolina at Greensboro - Physical pl		12.8 Tons (2000)
Precision Fabrics Group Inc		16 Tons (1999)
City of Greensboro - Thomas Z. Osborne POTW		19.5 Tons (2002)
The Procter & Gamble Manufacturing Company - Brown Summit		25.1 Tons (1999)
Hayworth Roll & Panel Company Inc		30.3 Tons (1999)
<b>Total Reported Emissions</b>	<b>294.5</b>	
<b>Total Assumed Emissions</b>		<b>260.4</b>
<b>Grand Total</b>		<b>554.9</b>

**Table B12: Facilities in Haywood County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Blue Ridge Paper Products - Canton Mill	5,358.4 Tons	
Waynesville Waste Water Treatment Plant		0.2 Tons (1999)
Airboss Rubber Compounding Inc.		0.2 Tons (1999)
Oaks Unlimited - Division of Fiber Fuels Inc		1 Tons (1999)
APAC-Tennessee Harrison Construction - Waynesville Asphalt		1.5 Tons (1999)
Giles Chemical		1.6 Tons (1999)
Blue Ridge Paper Products - Waynesville		5.1 Tons (1999)
<b>Total Reported Emissions</b>	<b>5358.4</b>	
<b>Total Assumed Emissions</b>		<b>9.6</b>
<b>Grand Total</b>		<b>5368.0</b>

**Table B13: Facilities in Stokes County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
JPS Elastomerics Corporation	0.9 Tons	
KobeWieland Copper Products, LLC	3.1 Tons	
Duke Energy Corp - Belews Creek Steam Station	26,861.2 Tons	
Bill Hanks Lumber Company		0.2 Tons (2002)
Charah Environmental, Inc. ** INACTIVE **		9 Tons (2000)
<b>Total Reported Emissions</b>	<b>26,865.2</b>	
<b>Total Assumed Emissions</b>		<b>9.2</b>
<b>Grand Total</b>		<b>26,874.4</b>

**Table B14: Facilities in Surry County Reporting NOx for CalendarYear 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
RMC Mid-Atlantic, LLC - DBA- RMC Metromont Materials	0 Tons	
Henredon Furniture Industries, Inc.	0.1 Tons	
Wayne Farms, LLC	1.6 Tons	
APAC-Atlantic, Inc. - Thompson Arthur Divisio ** INACTIVE **	5.5 Tons	
Bassett Furniture, Inc.	30.3 Tons	
Vaughan-Bassett Furn Co - Elkin Furniture	32.7 Tons	
Weyerhaeuser Company - Elkin Plant	41 Tons	
Interface Fabrics Group South, Inc.	98.2 Tons	
Wayne Farms- Elkin		0.1 Tons (1999)
The North Carolina Granite Corporation		0.1 Tons (2002)
Kentucky Derby Hosiery Co., Inc.		0.6 Tons (2002)
Surry Community College		1 Ton (1999)
Perdue Farms Incorporated		1 Ton (1999)
LS Starrett Company		1 Ton (1999)
Hamlin Casting Corp.		1 Ton (2002)
Candle Corporation of America		3.1 Tons (2002)
Barnhardt Manufacturing Company		3.7 Tons (2000)
Spencers Inc Plant No 4		5.2 Tons (1999)
Intex Corporation ** INACTIVE **		6 Tons (1999)
Sara Lee Sock Company		6.7 Tons (2002)
Carl Rose & Sons, Inc. - Elkin Asphalt Plant		7.6 Tons (2002)
Pine State Knitwear Company Inc ** INACTIVE **		11.3 Tons (1999)
Wayne Farms LLC		11.5 Tons (2002)
Spencers Inc Plant No 1		11.8 Tons (1999)
Renfro Corporation		15 Tons (1999)
Cross Creek Apparel, LLC		31 Tons (1999)
City of Mount Airy WWTP		99 Tons (1999)
<b>Total Reported Emissions</b>	<b>209.4</b>	
<b>Total Assumed Emissions</b>		<b>216.7</b>
<b>Grand Total</b>		<b>426.1</b>

**Table B15: Facilities in Randolph County Reporting NOx for CalendarYear 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Swaim, Inc. - Wagner Division	0.1 Tons	
Carolina Business Furniture LLC	0.1 Tons	
Miller Desk, Inc. - South Road Plant	0.2 Tons	
Matlab, Inc. - Ramseur Plant	0.2 Tons	
DAR/RAN Furniture Industries	0.5 Tons	
Moll Industries, Inc., Mid-State Plastics Division	0.9 Tons	
B & H Panel Company	2.2 Tons	
Oliver Rubber Company	2.7 Tons	
Starpet, Inc.	9.5 Tons	
Sara Lee Corporation, Underwear Division ** INACTIVE **	11.5 Tons	
Jowat Corporation		0 Tons (2002)
The P. & P. Chair Company		0.1 Tons (2002)

**Table B15: Facilities in Randolph County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Carolina Custom Finishing, LLC		0.1 Tons (2002)
Ultracraft Company, Division of Norcraft Holdings, LP		0.2 Tons (1999)
Vitafoam Inc		0.3 Tons (2000)
Sapona Manufacturing Company Inc		0.3 Tons (2002)
Collier-Keyworth, Inc.		0.5 Tons (2002)
Riley Paving, Inc. - Liberty Plant		0.6 Tons (1999)
Prestige Fabricators Inc - Foam Plant		0.6 Tons (2001)
Matlab, Inc. - Plants 1-4, 5, 7, 8 and 11		0.9 Tons (2002)
Miller Office Seating		1 Ton (1999)
Elkhart Industries, LLC **INACTIVE**		1 Ton (1999)
Georgia - Pacific Corp Asheboro Plant		1 Ton (1999)
Commonwealth Hosiery Mills Inc		1.6 Tons (2002)
Confluence Holding Corp.		1.9 Tons (2000)
Gold Kist Inc		2 Tons (1999)
APAC-Atlantic, Inc., Thompson Arthur Division - Plant #6		2.2 Tons (2002)
Acme McCrary Corp Pritchard St Plant		2.3 Tons (1999)
Acme McCrary Corp North St Finishing Plt		2.5 Tons (1999)
Kayser-Roth Balfour Division		2.8 Tons (1999)
Liberty Lumber Company		3 Tons (1999)
Quality Veneer Company		3.1 Tons (2002)
Bossong Hosiery Mills Inc		3.2 Tons (1999)
Hardin's Wholesale Florist, Inc.		3.3 Tons (1999)
Energizer Battery Manufacturing, Inc.		3.5 Tons (1999)
Arrow International Inc		4.2 Tons (1999)
North Carolina Zoological Park ** INACTIVE **		4.4 Tons (2002)
Nylon Dye Works, LLC.		5.1 Tons (1999)
Gilbert Hardwood Centers Inc		7 Tons (1999)
The Goodyear Tire & Rubber Company		7.7 Tons (1999)
APAC-Atlantic, Inc. - Thompson-Arthur Div. - Plant # 9		8.5 Tons (1999)
Ramtex Inc		8.7 Tons (1999)
Component Fabricators, Inc.		10.8 Tons (2000)
Seagrove Foods, Inc. ** INACTIVE **		16.4 Tons (1999)
Deep River Dyeing Company Inc		20.9 Tons (1999)
City of Asheboro Lake Lucas PS		99 Tons (2000)
City of Asheboro Brown WTP		99.9 Tons (1999)
<b>Total Reported Emissions</b>	<b>27.9</b>	
<b>Total Assumed Emissions</b>		<b>330.6</b>
<b>Grand Total</b>		<b>358.5</b>

**Table B16: Facilities in Rockingham County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Fieldcrest Cannon Blanket Manufacturing ** INACTIVE **	0.2 Tons	
The Southern Finishing Company, Inc.- Plant 10	0.6 Tons	
Loparex, Inc.	5.6 Tons	
Ball Metal Beverage Container Corp	6.8 Tons	

**Table B16: Facilities in Rockingham County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Metzeler Automotive Profile Systems North Carolina Inc	7.2 Tons	
Unifi, Inc. - Plant 15	8 Tons	
Unifi Manufacturing, Inc. Dyeing Business Unit - Plant 2	8.6 Tons	
Rockingham Power LLC	22 Tons	
Trigen Biopower Inc - Eden	81.1 Tons	
Pine Hall Brick Company Incorporated	81.4 Tons	
Miller Brewing Company - Eden Plant	529.3 Tons	
Duke Energy Corp - Dan River Steam Station	2,963.9 Tons	
Transcontinental Gas Pipeline Corp	4,590.7 Tons	
AMI Doduco (NC), Inc.		0.8 Tons (1999)
New Filcas of America Inc		1 Ton (1999)
Glen Raven Inc Springwood Fabrics Plant ** INACTIVE **		2 Tons (1999)
NPC, Inc. - 770 East #1		2.7 Tons (2000)
APAC-Atlantic, Inc. - Thompson-Arthur Division - Plant #7		2.9 Tons (1999)
Pillowtex / Hollingsworth GP		3.1 Tons (2002)
Stoneville Furniture Company Inc ** INACTIVE **		4.6 Tons (1999)
Commonwealth Brands, Inc		5.8 Tons (2002)
Mohawk Carpet Corp Karastan Rug Mill		6.5 Tons (2000)
The Equity Group, Inc. - NC Division		10.5 Tons (2002)
<b>Total Reported Emissions</b>	<b>8305.4</b>	
<b>Total Assumed Emissions</b>		<b>39.9</b>
<b>Grand Total</b>		<b>8345.3</b>

**Table B17: Facilities in Yadkin County Reporting NOx for Calendar Year 2003**

Facility Name	Reported Amount (2003)	Additional Assumed Amount (year)
Ferrellgas, LP d.b.a. Blue Rhino of N.C.- Hamptonville Plant	1.8 Tons	
67 Acquisition Company, Inc. - 21C Retail Arts		0 Tons (2002)
Lydall Thermal/Acoustical, Inc. - Westex Divi ** INACTIVE **		1.1 Tons (2002)
<b>Total Reported Emissions</b>	<b>1.8</b>	
<b>Total Assumed Emissions</b>		<b>1.1</b>
<b>Grand Total</b>		<b>2.9</b>

## Appendix C

### Vehicle Miles Traveled (VMT) Grow Data

Note: The following VMT data was generated by the NCDOT based on vehicles registered with the North Carolina Division of Motor Vehicles. Travel demand models are used by metropolitan planning organizations to calculate speeds and VMT for their local coverage area. The VMT used in the EAC SIP modeling demonstration was derived from the travel demand model for Davidson, Forsyth and Guilford Counties. The VMT for the remaining counties is from NCDOT data that is reported to the Federal Highway Administration to estimate lane miles and VMT for national highway systems. On average, VMT derived from the EAC SIP travel demand models are 25%-40% higher than NCDOT VMT data.

**Table C1: Annual VMT Growth Rate Based on 2000 - 2007 EAC SIP**

	2000 VMT	2007 VMT	Annual VMT Growth Rate
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**Fayetteville Area**

Cumberland	7,578,450	8,460,602	1.66
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**Hickory Area**

Alexander	594,210	755,500	3.88
Burke	2,518,540	2,873,401	2.01
Caldwell	1,651,220	2,010,100	3.10
Catawba	4,314,040	5,138,099	2.73
<b>Total Area</b>	<b>9,078,010</b>	<b>10,777,100</b>	<b>2.67</b>

**Mountain Area**

Buncombe	5,736,440	6,603,801	2.16
Haywood	2,244,520	2,625,298	2.42
Madison	492,930	571,879	2.29
<b>Total Area</b>	<b>8,473,890</b>	<b>9,800,978</b>	<b>2.24</b>

**Triad Area**

Alamance	3,598,930	4,176,499	2.29
Caswell	619,580	723,600	2.40
Davidson	4,112,280	4,924,498	2.82
Davie	1,245,080	1,464,200	2.51
Forsyth	9,595,433	11,153,970	2.32
Guilford	14,349,184	16,533,141	2.17
Randolph	3,675,570	4,414,300	2.87
Rockingham	2,469,390	2,874,500	2.34
Stokes	924,340	1,066,800	2.20
Surry	2,485,200	2,937,501	2.60
Yadkin	1,330,380	1,544,000	2.29
<b>Total Area</b>	<b>44,405,367</b>	<b>51,813,009</b>	<b>2.38</b>

**Table C2: Annual VMT Growth Rate Based on 2000-2004 Universe Data**

	2000 VMT	2004 VMT	Annual VMT Growth Rate
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**Fayetteville Area**

Cumberland	7,578,450	7,868,760	0.96
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**Hickory Area**

Alexander	594,210	657,420	2.66
Burke	2,518,540	2,576,770	0.58
Caldwell	1,651,220	1,803,450	2.30
Catawba	4,314,040	4,555,400	1.40
<b>Total Area</b>	<b>9,078,010</b>	<b>9,593,040</b>	<b>1.42</b>

**Mountain Area**

Buncombe	5,736,440	6,161,940	1.85
Haywood	2,244,520	2,343,160	1.10
Madison	492,930	528,060	1.78
<b>Total Area</b>	<b>8,473,890</b>	<b>9,033,160</b>	<b>1.65</b>

**Triad Area**

Alamance	3,598,930	3,682,400	0.58
Caswell	619,580	599,760	-0.80
Davidson	4,112,280	4,269,430	0.96
Davie	1,245,080	1,332,770	1.76
Forsyth	7,882,840	8,419,940	1.70
Guilford	10,740,240	11,784,250	2.43
Randolph	3,675,570	3,775,820	0.68
Rockingham	2,469,390	2,444,080	-0.26
Stokes	924,340	985,500	1.65
Surry	2,485,200	2,471,110	-0.14
Yadkin	1,330,380	1,386,020	1.05
<b>Total Area</b>	<b>39,083,830</b>	<b>41,151,080</b>	<b>1.32</b>